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QUARTERLY UPDATE

FROM JANUARY 1, 1993 THROUGH APRIL 1, 1993

HISTORICAL RELEASE REPORT (HRR)

PREPARED BY

ENVIRONMENTAL RESTORATION
FACILITIES OPERATIONS MANAGEMENT

EG&G ROCKY FLATS, INC.

APRIL 30, 1993

ADMIN

A-SW-000015

REMOVED FOR CLASSIFICATION / UCNT
By CC2 Y/a
Date 9/5/93 [Signature]

**Quarterly Update to the Historical Release Report
for period of January 1, 1993 - April 1, 1993**

The enclosed Historical Release Report (HRR) quarterly update complies with section I.B.3 of the Interagency Agreement (IAG). Information making up this update process consist of an assessment of newly identified areas of known, suspect, and potential environmental releases or discoveries at the Rocky Flats Plant (RFP).

Newly identified areas of concern will undergo review by the Environmental Protection Agency (EPA), Colorado Department of Health (CDH), and the Department of Energy (DOE). Upon final review, EPA and CDH will determine if further investigation for these areas or incidents is warranted. This update process shall incorporate pertinent correspondence letters identifying what actions and/or recommendations have been made to address past issues relevant to the HRR process.

This report has included a letter of recommendation from EG&G to DOE addressing RFI/RI Work Plan amendments for inclusion of 81 Potential Areas of Concern (PACs), Potential Incidents of Concern (PICs), Under Building Contamination sites (UBCs), and recommendations for one new Operable Unit (OU). The following recommendations are in response to EPA and CDH reviews originally submitted in the June 1992 HRR:

- RFI/RI Work Plans and/or subsequent phases to the Work Plans can incorporate 41 of the 82 PAC locations originally submitted.
- The 41 locations include six of the 26 PCB related PAC areas. The remaining 20 PCB locations will be remediated under TSCA regulations and not be addressed under IAG RFI/RI operations.
- Operable Unit 9 (Original Process Waste Lines) can incorporate 12 of the 31 UBC areas with the remaining 19 UBCs addressed in future building specific D&D plans.
- Recommendations for a new Operable Unit to address PAC 000-500 (The RFP sanitary sewer system).
- The remaining 22 PACs and 2 PICs can be incorporated into RFI/RI Work Plans for Operable Units 6, 8, 9, 12, 13, and 14 (see enclosed letter for specific OU and schedule).

These recommendations will be effective immediately upon the concurrence of EPA, CDH and the DOE.

Newly identified areas of concern submitted in the last quarterly update for October 1, 1992 - January 1, 1993 were not assigned an appropriate PAC number and therefore will be re-submitted in this update.

Finally, as part of the update process, the Rocky Flats Hazardous Substance Release Reports (HSRR) will be incorporated to ensure appropriate review of all releases at RFP. Most HSRR information pertains to releases inside buildings.

All information submitted in this update is formatted in the same reporting style as the HRR for consistency and will be incorporated into the HRR.

Environmental Protection Agency
letter addressing Potential Areas
of Concern (PACs) requiring further
investigation - December 23, 1992.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2468

Ref: SHWM-FF

DEC 23 1992

Mr. Richard Schassburger
Department of Energy
Rocky Flats Office
P.O. Box 928
Golden, Colorado 80402-0928

RE: Potential Areas of Concern needing further investigation.

Dear Mr. Schassburger:

In reviewing the table enclosed with our letter of November 30, 1992 on this subject, PAC #600-1001 was mistakenly identified as PAC #600-1101. Enclosed is a corrected summary table. For your information, we are enclosing a second table that lists all of the newly identified potential areas of concern along with pertinent summaries and rationales for conducting further investigations.

If you have any questions regarding these matters, please contact Gary Kleeman at 294-1071.

Sincerely,

A handwritten signature in cursive script, appearing to read "Martin Hestmark", is written above the typed name.

Martin Hestmark, Manager
Rocky Flats Project

Enclosures

cc: Mike Arndt, EG&G
Susan Nachtrieb, City of Westminster (TRG)

TABLE 1

SUMMARY OF PROPOSED OPERABLE UNITS FOR
NEWLY IDENTIFIED POTENTIAL AREAS OF CONCERN (PACs) REQUIRING FURTHER INVESTIGATION

PAC	900-1307	700-1100 700-1101 700-1108 900-1301 PIC #44	000-500	400-803 400-804 400-807 400-810 600-1001 800-1201 800-1204 800-1205	100-602 100-603 100-609 100-611 300-702 400-802 PIC #9			100-607 100-608 300-708 300-709 400-800 400-801 500-900 500-901 500-902 500-904 500-905 600-1000 600-1002 600-1003 700-1102 700-1103 700-1104 700-1105 700-1111 700-1112 800-1207 800-1208 800-1209 800-1210 900-1306 PIC #41	UBC-371 UBC-374 UBC-528 UBC-559 UBC-701 UBC-707 UBC-731 UBC-770 UBC-771 UBC-774 UBC-776 UBC-777 UBC-778 UBC-779 UBC-991	UBC-122 UBC-123 UBC-125 UBC-331 UBC-439 UBC-440 UBC-441 UBC-442 UBC-444 UBC-447 UBC-865 UBC-881 UBC-883 UBC-886 UBC-887 UBC-889
TOTALS	1	5	1	8	7		26	15	16	

NEWLY IDENTIFIED POTENTIAL AREAS OF CONCERN

Location	Site Number	Event	5 pounds CS tear gas powder	This area was boxed down.	No	Following down the area is considered a sufficient remedial action.
NE-1400	N/A	Spill of tear gas powder onto roadway (1987)	5 million cubic feet of natural gas were released	The area was boxed down.	No	The natural gas was dissipated to the atmosphere, so no remediation is necessary.
NE-1401	6	Rupture in Coors Company natural gas line	PCB-contaminated fuel	One square foot of contaminated asphalt was removed.	No	Appropriate remedial actions were already conducted.
NE-1402	2	Contaminated transformer oil leaked onto asphalt in 1983	1 quart gasoline	Spill contained with Oil-Dri and removed, packaged material transferred to Building 531 Storage Area.	No	Appropriate remedial actions were already conducted.
NE-1403	6	Gas from portable generator spilled onto parking lot in 1991	5,400 gallons of steam condensate	None	No	The subsurface soil in the vicinity of this former pond has been sampled in the soil sampling program for OUI. Surface soils have been completely disturbed by construction of the French Drain.
BE-1600	1	Former pond received steam condensate from Building 881 in 1955	Chromium-based bioleaches	None	No	The subsurface soil in the vicinity of these former ponds has been sampled in soil sampling program for OUI. Surface soils adjacent to 1601.2 were also sampled in the OUI investigation.
SE-1601.1 & SE-1601.2	1	Pond 8-north (SE-1601.1) and Pond 8-south (SE-1601.2) received overflow/blowdown from Building 881 Cooling Towers	Either diesel or gasoline	There is no evidence that remedial actions were conducted.	No	Because 18 years have passed since the fuel was spilled into the creek, the fuel has degraded and is no longer a concern.
SW-1700	5	Fuel spill into Woman Creek drainage in 1975	Plutonium contaminated laundry waste, laboratory waste, photographic waste (included tritium, uranium, plutonium) tellurium, chromic acid	Remedial actions were conducted in the areas of four known releases (PAC 800-145, 900-141, 700-144, and 100-604). The actions consisted of repairing the broken line and removing soil at PAC 700-144.	Yes	The sanitary sewer system has probably leaked at locations in addition to the four already identified. To determine if there are other areas of contamination, it is suggested that the sludge from several sewer junctions be sampled for plutonium, americium, and uranium. Results for this sampling could guide the selection of additional soil sampling along the sewer pipelines.
000-500	Site wide	Releases from the sanitary sewer system	Waste oil/diesel fuel number 2	None	No	The last instance of roadway spraying with waste oil is cited as having been in Sept. 1983. It is improbable that contaminants from the waste oil and/or brines would still be present on the dirt roads or nearby sediments after nine years of exposure.
000-501	Site wide	Spraying waste oil on unpaved roads to suppress dust	2.75 pounds of mercury	The mercury was vacuumed from the valve floor and contaminated soil was excavated.	No	Appropriate remedial actions were already conducted.
100-600	13	Spill onto concrete and soil, 1990				

100-601	13	Spill onto ground, 1989	8 ounces 1,2-ethylhexyl phosphoric acid	None	No	The small size of the spill (8 ounces) and the caustic nature of 1,2-ethylhexyl phosphoric acid indicates that this spill does not require remediation.
100-602	13	Break in Building 123 process waste line in 1989	25 gallons urine, 12.5 gallons nitric acid, 20 gallons hydrochloric acid, 1.5 pounds ammonium thioyanate, 1.0 pound ammonium iodide, 2.5 gallons ammonium hydroxide	The spill was near two HHSs scheduled for remediation investigation, so no action was taken.	Yes (Could be easily incorporated in OU13 RI process)	This soil was contaminated as a result of the break in the process waste line. This area is not being studied as part of OU9. (OU9 deals exclusively with abandoned process waste lines.) Therefore all breaks or releases from currently operating process waste lines will require a separate remedial investigation.
100-603	13	Overflow of process waste from Building 123 in 1989	Hydrochloric and nitric acids, urine, ammonium thioyanate, ammonium iodide, and ammonium hydroxide	This spill was neutralized and soil samples were collected to confirm that contamination was restricted to the area.	Yes (Could be easily incorporated in OU13 RI process)	The soil was contaminated as a result of the break in the process waste line. This area is not being studied as part of OU9. (OU9 deals exclusively with abandoned process waste lines.) Therefore all breaks or releases from currently operating process waste lines will require a separate remedial investigation.
100-604	13	Leaking sanitary sewer pipes, 1990	Unknown	The pipes were repaired.	No	Sanitary sewer lines from trailers are not likely to contain any impacting contaminants, therefore investigation is not warranted.
100-605	13	Spill onto asphalt or soil, 1989	2 gallons hydraulic oil	No documentation was found which detailed a response.	No	Because of the small size of this spill and the type of material involved, hydraulic oil does not contain PCBs, so remedial actions are warranted.
100-606	13	Spill onto asphalt, 1989	8 ounces of TCE	None	No	TCE is very volatile, so an 8-ounce spill in 1989 would no longer be of concern.
100-607	13	Transformer leak onto gravel basement floor, 1984-1986	PCB bearing cooling oil	None	Yes	A PCB survey was conducted in October 1991 (EG&G, 1991). This survey evaluated the contents of all transformers at RFP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
100-608	13	Transformer leak onto ground, 1989	0.25 gallons of PCB containing oil	None	Yes	A PCB survey was conducted in October 1991 (EG&G, 1991). This survey evaluated the contents of all transformers at RFP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
100-609	13	Incinerator releases to the air, 1980-1985	Dioxins and furans	None	Yes	Dioxins and furans are toxic and their presence should be examined. If the incinerator is still in place, building smear samples should be collected. In addition, soil samples should be collected from downwind of the incinerator (southern edge of the 600 Area) and analyzed for dioxins.
100-610	13	Asbestos insulation disturbed in 1987	12 linear feet of asbestos	Related asbestos was wetted down and pipes were repaired.	No	The disturbed asbestos was released to the atmosphere, so no remedial actions are necessary.

100-611	13	Liquid spill into containment area and 3 pits under Building 123 in 1989	Several hundred gallons of acidic scrubbing solutions	All spilled materials were contained and transferred to process waste lines.	Yes	Burns and pits into which the spilled solution overflowed may not have completely contained the release.
100-612	13	Nickel-cadmium battery fall onto pavement in 1991	3 quarts potassium hydroxide	Spill contained and cleaned using Oil-Dri. Residue placed in drum for disposal	No	Appropriate remedial actions were already taken.
300-700	14	Unknown scrap building material was buried in trench from 1955-1981	Buried material consisted of roofing material, styrofoam, asphalt, and plastic sheathing	The material was removed and taken to the sanitary landfill. No radioactivity was discovered in the trench.	No	There is no evidence that burying scrap building material had any impact on the environment.
300-701	13	Liquid spill onto loading dock in 1989	20 gallons diluted sulfuric acid	Solution removed with vacuum and floor washed, waste sent to process waste system	No	Appropriate remedial actions were already taken.
300-702	13	Spills and leaks of pesticides and herbicides stored in Building 367 between 1952 and 1988. Contaminants released onto soil and possibly nearby drainage ditch.	Pesticides and herbicides in unknown quantities	Soil sampling was scheduled in 1988, but there is no record verifying that the sampling was conducted.	Yes	Soil around Building 367 and along drainage pathways are probably contaminated with residual pesticides and herbicides. Further investigations could include select soil and ditch sampling with analysis for organophosphorus and chlorinated herbicides.
300-703	13	Road oil vapors were ignited in 1970	Oil vapors and burned road oil residual	Fire was extinguished by fire department with water and dry chemical.	No	Residuals and releases from fire 22 years ago would not be present.
300-704	10 and 8	Fires on roof of Building 381 in 1982	Smoke and fluorine vapors	None	No	Fluorine vapors have already been dispersed to the atmosphere.
300-705	10 and 8	Spill into containment berm from storage tank north of Building 374 in 1989	Potassium hydroxide	The liquid was pumped back into the process waste line.	No	Appropriate remedial actions were already conducted.
300-706	10 and 8	Spills from Tank 805 north of Building 374 in 1989. Liquid spilled onto plywood deck, dripped onto concrete slab, migrated toward sump embedded in sand	2 gallons of process waste stream included a variety of chemicals	The plywood and concrete were washed with soap, the liquid was pumped to the waste system, and saturated sand and cleaning materials were removed and treated as low-level mixed waste.	No	Appropriate remedial actions were already conducted.
300-707	13 and 10	Liquid spill from tank onto asphalt in 1985	3 gallons of water and sanitizer (water and formaldehyde)	None	No	The 3 gallons of sanitizer have already evaporated.
300-708	10	Transformers leaking onto pad of unknown composition until 1987	PCB containing oil	The transformers were retrofitted in 1987.	Yes	A PCB survey was conducted in October 1991 (EG&G, 1991). This survey evaluated the contents of all transformers at RPP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
300-709	13	Transformer leak	772 ppm PCB oil	None	Yes	A PCB survey was conducted in October 1991 (EG&G, 1991). This survey should evaluate the contents of all transformers at RPP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
300-710	13	Gasoline spill from supply truck in 1991	2 gallons unleaded gasoline	Waste was cleaned up and packaged.	No	Appropriate remedial actions were already conducted.

400-800	13	Small leak from a transformer (1987)	Dielectric fluid; smear samples contained 10,964 ppm PCBs	The transformer was removed.	Yes	A PCB survey was conducted in October 1991 (GG&G, 1991). This survey evaluated the contents of all transformers at RPP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
400-801	12	Transformer leak on roof of Building 447 (1987)	PCB contaminated transformer oil; smear samples contained 120-94 mg of PCBs	The roofing material was removed.	Yes	Need to confirm that all material contaminated with PCBs has been removed.
400-802	14	Drums leaking on a concrete slab from 1955-1969. Equipment stored on slab was also contaminated by the leaking drums	Depleted uranium chips immersed in oil stored in 125 30-gallon drums	The drums were removed in 1956 and the concrete was decontaminated with perchloroethylene. The equipment was moved to another area. After cleanup, parts of the slab registered 108 disintegrations/minute (d/m).	Yes	Soil around the concrete storage area and possibly under the area may be contaminated with uranium. Collection of soil samples around this storage area is suggested.
400-803	12	Miscellaneous materials were dumped into storm drain near Building 446 in 1972. Mixture found along open ditch south of Cottonwood Ave. northeastward to Seventh Ave.	Silver paint, oil, and aluminum paint	There is no evidence to suggest that remedial actions were conducted.	Yes	Dumping oil and aluminum paint would release heavy metals to the soil. It is suggested that soil samples be collected from the area around the storm drain and along the ditch and analyzed for lead, cadmium, chromium, and arsenic.
400-804	14	Four ingots of unknown composition fell from a truck onto asphalt in 1957.	Radioactivity	The ingots removed, the area was dry vacuumed, and hot spots were covered with asphalt.	Yes	Yield sampling activities (rad survey and asphalt sampling) in OUI2 work plan will sufficiently investigate this location.
400-805	13	Leak from a filter pipe near tank #9 in 1990	Fuel	The filter pipe was repaired.	No	Appropriate remedial actions were already conducted.
400-806	10(7)	Leak from production tank north of Building 440 onto pavement in 1989	5 gallons polymethylene polypropylene	The liquid was cleaned up using Oil-Dri and residue was placed in hazardous material waste drums.	No	Appropriate remedial actions were already conducted.
400-807	12	Sandblasting of railroad cars released contaminants to the air. Sandblasting may still be in operation.	Unknown	None	Yes	Field sampling activities (rad survey, surficial soils and sediment sampling) in OUI2 work plan will sufficiently investigate this location.
400-808	12	Oil leaked from vacuum pump	1 quart vacuum pump oil	Contaminated soils were removed	No	Appropriate remedial actions were already taken.
400-809	12	Oil leak was found in motorcycle parking lot in 1991	1 quart motor oil	Spill cleaned up with absorbent material and packaged for disposal.	No	Appropriate remedial actions were already taken.
400-810	12	Fire in the inlet-duct of the beryllium air plenum for Building 444 in 1978	14.5 grams beryllium	None	Yes	Field sampling activities (surficial soils and sediment sampling) in OUI2 work plan will sufficiently investigate this location.
500-900	8	Transformer oil	50-500 mg/L PCBs	None	Yes	A PCB survey was conducted in October 1991 (GG&G, 1991). This survey evaluated the contents of all transformers at RPP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.

500-901	8	Transformer oil	55 ppm PCBs	None	Yes	A PCB survey was conducted in October 1991 (BG&G, 1991). This survey evaluated the contents of all transformers at RFP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
500-902	8	Transformer leak	> 500 ppm PCBs	The transformer was retrofilled in 1987.	Yes	A PCB survey was conducted in October 1991 (BG&G, 1991). This survey evaluated the contents of all transformers at RFP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
500-903	8	1988 - Drum leaked in RCRA storage unit #1 1991 - Release in storage unit	1988: <4 ounces of SP-63 ppm PCBs 1991: 40 gallons of "Thim-sol" lubricant mixed with waste oil	1988: Leaking drum and cleanup debris placed in overpack drum. 1991: Leak was completely contained within secondary containment pan. Leaking drum placed into overpack drum. Spill pumped into new drum.	No	The 1991 incident had no impact on the environment. The 1988 event consisted of a release of less than 4 fluid oz. into a cargo container. It is unclear whether any release was made to the environment, but due to the small amount of release and the ambiguity involved, further investigation seems to be unnecessary.
500-904	8	Transformer leaks	Transformer 223-1 contained > 500 ppm PCBs Transformer 223-2 contained < 50 ppm PCBs	The transformers were retrofilled in 1987.	Yes	A PCB survey was conducted in October 1991 (BG&G, 1991). This survey evaluated the contents of all transformers at RFP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
500-905	8	Transformer leak	PCBs	None	Yes	A PCB survey was conducted in October 1991 (BG&G, 1991). This survey evaluated the contents of all transformers at RFP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
600-1000	14	Transformer oil	> 500 mg/L PCBs	Action was proposed, but completion was not documented.	Yes	A PCB survey was conducted in October 1991 (BG&G, 1991). This survey evaluated the contents of all transformers at RFP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
600-1001	14	Nov. 1954 - Drums leaked still bottoms and oils from Building 444 onto slab Sept. 1958 - Punctured drum leaked highly contaminated waste coolant from Building 776 Mar. 1969 - Drums with loose lids contaminated 2 square feet of slab with solid material from Building 883. Drum leaked waste from Building 881 onto slab.	Still bottoms and oils Contaminated waste coolant 3,000 counts/min. Up to 300 counts/min.	The drums were repacked and the south end of the slab decontaminated. The area was cleaned "to an extent" and leaking drum contents transferred to a second drum. (8mar count in 1959 found 100,000 counts/min, not related to specific release.) The decontamination (up to 3,000 d/m) was removed. Leaking drums were returned to Building 881.	Yes	Soil around this concrete slab and possibly under the pad may be contaminated with uranium. Collection of soil samples around this slab are suggested.

Index	Location	Date	Description	Contaminant	Status	Remarks
			May 1960 - Corroded drums leaked acidic waste material from Building 881 onto loading facility	No contamination detected	None	
600-1001 (cont.)			June 1960 - Drum leaked waste from Building 881 onto slab	Waste from Building 881	None	
	14		Aug. 1961 - Drums leaked waste from Building 444 and 776 in Building 663	Waste from Buildings 444 and 776	Equipment was decontaminated or replaced.	Above
			Mar. 1963 - Three drums leaked waste and contaminated trailers, lockers, work area, and personnel clothing and shoes.	Not specified	None	
			Sept. 1963 - Drum contaminated a fork truck, panel truck, and semitrailer in Building 663.	Not specified	None	
600-1002	14		Transformer Storage Area Leak	PCBs	None	A PC survey was conducted in October 1991 (BGR 1991). This survey evaluated the contents of all transformers at RFP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
600-1003	14		Transformer leak	PCBs	None	A PC survey was conducted in October 1991 (BGR 1991). This survey evaluated the contents of all transformers at RFP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
700-1100	14		1964 and 1969-Plutonium contamination from incidents potentially transported along french drain.	Possible plutonium	None	This potential for radioactive contamination in the area warrants further investigation along the french drain.
700-1101	14		Leaky wastewater tank overflowed west of Building 778 into tank pit.	Laundry wastewater (probably low-level)	None	Leaky wastewater may contain low level radioactive contamination. The extent of this radioactivity warrants further investigation.
700-1102	8		Transformer oil	14,900 mg/L PCBs	The transformer was removed for retrofitting and relocation several feet to the north. The pad was partially removed to 4 inches deep and appears to have had fill recently placed around it.	A PC survey was conducted in October 1991 (BGR 1991). This survey evaluated the contents of all transformers at RFP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
700-1103	8		Transformer oil	135-7,200 µg PCBs	PCBs were to be cleaned up with Building 707 under the Toxic Substances Control Act.	A PC survey was conducted in October 1991 (BGR 1991). This survey evaluated the contents of all transformers at RFP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.

700-1104	8	Transformer oil	1,035-3,350 µg PCBs	Transformers were moved and retrofilled. Rock and gravel fill was placed around the transformer pad west of Building 708.	Yes	A PCB survey was conducted in October 1991 (BG&G, 1991). This survey evaluated the contents of all transformers at RPP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
700-1105	8	Transformer oil	PCBs	Transformers were retrofilled and moved several feet east and north.	Yes	A PCB survey was conducted in October 1991 (BG&G, 1991). This survey evaluated the contents of all transformers at RPP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
700-1106	8	Process wastewater from valve vault 12 leak spilled onto street from tank truck at entrance to portal 1	10 gallons radioactive process wastewater (no radioactivity found on street at this time)		Yes	The magnitude of the rad contamination from samples of this process wastewater warrants further investigation.
700-1107	8	June 10, 1986 - Open oil drum filled with water from compressor house roof overflowed and oil flowed onto road past Building 776 June 12, 1986 - Compressor waste oil spilled from overfilled drum outside door 15F north of Building 776	1 to 2 gallons oil 2 to 3 gallons oil	"Oil-Dri" was poured over the area to absorb the spilled oil. "Oil-Dri" was to be swept up, placed in a drum, and disposed in Present Landfill (PAC NW-114). Two bags of oil absorbent were used to absorb the spill.	No	Appropriate remedial actions were already conducted.
700-1108	8	Process waste storage tanks leaked chemical and radioactive contamination to the soil around Building 774, and minor leakage seeped to building footing drain tiles. July 21, 1980 - Process waste line leaked June 22, 1987 - Caulk overflowed in bermed area beneath 8,000-gallon above-ground condensate tank. Drained into western condensate receiving tank.	Mar. 1971 - 500 disintegrations per minute per liter (d/m/L) gross alpha Apr. 1971 - 400 d/m/L plutonium and 800 ppm nitrate 1,000 gallons - 2,500 pCi/L total alpha; 4000 pCi/L gross beta; 10,000 mg/L NO ₃ ; pH 12. Depleted uranium disk 1" diameter by 1/2" inch thick Nickel carbonyl	1975 - Wet-well with a submersible pump installed at Building 774/774 footing drain outfall pond. 1981 - Interceptor trench pump house installed. The initial response - stop flow through waste line to stop leak. FIDILIR survey to determine extent of contamination. Broken waste line excavated and loose flange identified. Contents of western condensate tank sampled, and solution pumped to sanitary sewer or Building 774 for processing. The uranium was transported to Building 776 then to Building 779 Nuclear Material Control custody; stored in 55-gallon drums. Site where U found surveyed (excludes within backgroud). Four 55-gallon drums; 1 GI can with two cylinders and 6 loose cylinders of nickel carbonyl removed from burial pit west of Building 771 to pit east of Solar Evaporation Ponds. Explosive charges used to destructively vent the cylinders and ignite any residual gas.	Yes	Levels of radioactivity warrant conducting further scans of radioactive contamination.
700-1109	8	Piece of uranium found on ground between Buildings 778 and 729	Depleted uranium disk 1" diameter by 1/2" inch thick		No	Depleted uranium is not a serious hazard.
700-1110	8	Fire in Building 771. Nickel carbonyl cylinders drummed and buried.	Nickel carbonyl		No	Appropriate remedial actions were already conducted.

700-1111	8	Transformer leak	PCBs	The transformer unit was retrofitted in 1987.	Yes	A PCB survey was conducted in October 1991 (BQ&G, 1991). This survey evaluated the contents of all transformers at RFP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
700-1112	8	Transformer leak	807 ppm PCBs	Cleanup scheduled during 1989, but not confirmed.	Yes	The previous remedial action should be confirmed. A PCB survey was conducted in October 1991 (BQ&G, 1991). This survey evaluated the contents of all transformers at RFP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
800-1200	12	South process transfer line leaked Mar. 15, 1989 Mar. 16, 1989 Apr. 13, 1989 June 1989 - Secondary chase pipe leak detected	Partially neutralized HNO ₃ or nitrate water contaminated with depleted uranium (pH = 1.2) 5 gallons 7 gallons (>1 lb radionuclides) 15 gallons (>100 lbs corrosives)	Discharge valves were closed and locked out; plumbing was changed and hydrostatically tested. The inner line was removed.	Yes	Place both the inner and the outer chase pipe were found to be leaking; further investigation is warranted.
800-1201	14	1957 - Plutonium fire contamination	Building 881 (NW corner) total activity = 4.5×10^6 d/m/kg 20 feet west, total activity = 1.5×10^6 d/m/kg; with some plutonium; uranium-235 in soil (1978)	April 1981 - Contaminated soil removed in two small areas near Building 881. May not be same area.	Yes	The radioactive contamination in soil in 1978 warrants further investigation in the area around Building 881.
800-1202	12	Battery fell from truck and battery acid spilled on road	1 qt. 1/2 gallon H ₂ SO ₄	NaHCO ₃ applied to spill and area washed down. Battery disposed in present land fill.	No	Appropriate remedial actions were already conducted.
800-1203	12	Broken sanitary sewer line between Building 865 and 886	Sanitary sewage waste	None	No	No specific contaminants are associated with this break in the sanitary sewer line, however the site-wide sanitary sewer system (PAC 000-500) is listed as needing further investigation.
800-1204	12	Building 886 spills Jan. 1978 - vent pipe overflow onto ground 1984 - Tank overflow onto roof and ground 1986 - Tank overflow onto roof through downspouts and onto ground	2 gallons on about 16 sq. ft. 410,000 d/m/L alpha Decontamination water radioactivity 20 gallons process waste	None	Yes	Levels of radioactivity warrant conducting further scans of radioactive contamination.
800-1205	12	Uranium and plutonium and condensate contaminated east dock of Building 881	Uranium, plutonium, and condensate	None	Yes	The presence of uranium and plutonium contamination warrants further investigation specifically, the collection of wipe samples of the dock outside Building 881.

Location	Date	Incident	Contaminants	Concentration	Responsible Party	Remedial Actions	Cost	Notes
800-1206	12	Trash container fire in Building 883	Contaminated trash		The shift superintendent was responsible for improper cleanup activities, and Health Physics was to follow up on the incident with the proper department.	No		The dam is probably not at the same location.
800-1207	12	Transformer leak	> 500 ppm PCBs		The transformer was required to be removed or replaced by fiscal year 1987 or 1988.	Yes		A PCB survey was conducted in October 1991 (BG&G, 1991). This survey evaluated the contents of all transformers at RFP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
800-1208	12	Transformer leak	435 gallons 110 ppm PCBs		The transformer was retrofilled in 1987.	Yes		A PCB survey was conducted in October 1991 (BG&G, 1991). This survey evaluated the contents of all transformers at RFP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
800-1209	12	Transformer leaks	PCBs		The transformers were retrofilled in 1987.	Yes		A PCB survey was conducted in October 1991 (BG&G, 1991). This survey evaluated the contents of all transformers at RFP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
800-1210	12	Transformer leaks	Possibly PCBs		The transformers were removed from the old pad, retrofilled, and placed on a new pad.	Yes		A PCB survey was conducted in October 1991 (BG&G, 1991). This survey evaluated the contents of all transformers at RFP. Soil contaminated with PCBs from transformer leaks should be remediated, since PCBs do not degrade and are not transported readily.
800-1211	12	Capacitor leak	1 pint oil (no PCBs)		A smear sample was taken from the concrete where the leak occurred. A glass bottle was placed under the leak, absorbent pads were put on the spill, and the area was barricaded.	No		Appropriate remedial actions were already conducted.
900-1300	8	Sludge from sanitary sewage treatment reverse osmosis plant	Low-level radioactive waste sludge from sanitary treatment plant		Monitoring ground water and the vadose zone are planned.	No		Monitoring is sufficient to evaluate the potential contamination from sewage sludge.
900-1301	8	79 drums containing concentrated wastes from Building 991	Drummed concrete wastes contaminated with enriched and depleted uranium		None	Yes		Further investigation of this area is recommended, because concrete stabilization has not always been successful at RFP. In addition, drums were stored outside, above the headwaters of Walnut Creek. Water could have leached radioactivity from waste drums into Walnut Creek where it may be transported to ponds downstream.
900-1302	10	Gasoline spill sprayed into the air or leaked onto the ground from 55-gallon drum	Approximately 2 gallons gasoline		The Hazardous Materials Team sealed the leak, and a concrete containment berm was to be installed around the contractor's fuel storage facility.	No		Contamination was not severe and has probably degraded.
900-1303	6	Natural gas leak	Natural gas		The pipe was repaired and 400 feet of gas line near Building 991 were slated to be replaced in 1971.	No		The natural gas was dissipated to the atmosphere, so no remediation is necessary.

900-1304	3	Chromic acid spilled in cement pit	Several gallons chromic acid laboratory waste	Steps were taken to prevent recurrence.	No	Cement pit and boom functioned properly in containing the spill; therefore no release to the environment.
900-1305	3	Prime coating spilled on roof of Building 991 under intake affected climate inside building.	Approximately 5 gallons primer Tremco Transpox containing mineral spirits as a solvent	Primer was spread around and dried.	No	Contamination was not severe and has probably degraded.
900-1306	3	Transformer leaks	114 and 60 ppm PCBs in transformers 991-1 and 991-2, respectively	PCBs were cleaned up and the transformers repaired by an outside contractor.	Yes	Need to confirm that all contaminated material was removed from this site.
900-1307	3	Explosive bonding experiment hurled a piece of aluminum 52.5 feet	Uranium alloy and stainless steel	Measurements were to be evaluated to prevent malfunctions during future experiments.	Yes	Explosive bonding experiments used uranium. The pit area should be investigated to determine the extent of radioactivity in the soil.
Under Building Contamination (UBC)	Site wide	Building operations released contaminants into soil or ground water under the building.	Radionuclides, nitrate solvent, acids, and bases	Some releases have been remediated, but a majority have never been researched.	Yes	Under building soil and ground-water contamination resulting from building operations has not been previously addressed. Virtually every current or former building used for operation, production, or maintenance could have contaminated the environment beneath the buildings. It is suggested that soil sampling be conducted in hot areas of building basements and that ground water be monitored for all the appropriate contaminants of interest. Some of the identified PACs (100-611 and 400-157-2) pertain to contamination under buildings; these PACs may be investigated concurrently with the UBCs.
PIC #9	13	Leaking drums outside Building 551.	Aqueous ammonia and carbon tetrachloride.	No cleanup mentioned.	Yes	Field sampling activities for HISS 158 in the OU 13 work plan will sufficiently investigate this location with minor revisions.
PIC #41	8	Transformer leaks	PCBs.	Transformer 777-1 was scheduled for cleanup to occur on August 14, 1989.	Yes	PCBs do not degrade and are not readily transported.
PIC #44	8	Liquid contaminated to 6,700 d/m ³	Unknown distillate.	Soil samples taken for analysis. No cleanup mentioned.	Yes	Contaminated liquid was pumped to the ground south of building 374; no cleanup known.

REFERENCES

IC&G Rocky Flats, 1991, "Assessment of Known, Suspect, and Potential Environmental Releases of Polychlorinated Biphenyls (PCBs)," October 1991
 d/m³ = disintegrations per minute per liter
 pCi/L = pico-curie per liter

Letter of Recommendation from EG&G to
DOE for Incorporation of Potential Areas
of Concern (PACs), Potential Incidents of
Concern (PICs), and Under Building Conta-
mination Sites (UBCs) into existing RFI/RI
Work Plans

F3842

EG&G ROCKY FLATS

EG&G ROCKY FLATS, INC.

ROCKY FLATS PLANT, P.O. BOX 464, GOLDEN, COLORADO 80402-0464 • (303) 966-7000

March 29, 1993

93-RF-3842

F. R. Lockhart

Director Environmental Restoration Division

DOE, RFO

SUBMITTAL FOR INCORPORATION OF POTENTIAL AREAS OF CONCERN (PACs), POTENTIAL INCIDENTS OF CONCERN (PICs), UNDER BUILDING CONTAMINATION SITES (UBCs) INTO EXISTING RFI/RI WORK PLANS - RLB-144-93

Enclosed are our recommendations for incorporating Potential Areas of Concern (PACs), Potential Incidents of Concern (PICs) and Under Building Contamination sites (UBCs), into existing RFI/RI Work Plans or subsequent phases. Please review and forward the enclosed recommendations to the Environmental Protection Agency (EPA) and Colorado Department of Health (CDH).

If you have any questions regarding this transmittal, please contact Nick Demos of my staff at extension 6938.



R. L. Benedetti

Associate General Manager

Environmental Restoration Management

NSD:lw

Orig. and 1 cc - F. R. Lockhart

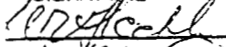
Enclosure:

As Stated

CC:

R. J. Schassburger - DOE, RFO

THORIZED CLASSIFIER
SIGNATURE



DATE

REPLY TO RFP CC NO:

CTION ITEM STATUS

J ☐ CLOSED

PARTIAL

TH ROYAKS

ORIG & TYPIST INITIALS

SD:lw

DRAFT

ENCLOSURE
RLB-144-93
Page 1 of 6

March 22, 1993

Martin Hestmark
EPA, Region 8, WM
999 18th St. Suite 500
Denver, Colorado
80202-2466

cc:
Gary Baughman
Colorado Dept. of Health

RFI/RI WORK PLAN AMENDMENTS FOR INCLUSION OF POTENTIAL AREAS OF CONCERN, POTENTIAL INCIDENTS OF CONCERN, UNDER BUILDING CONTAMINATION SITES, AND NEW OPERABLE UNIT RECOMMENDATIONS

Ref: M. Hestmark ltr (8HWM-FF) to R. Schassburger, Potential Areas of Concern needing further investigation, December 23, 1992.

This letter is in response to your request to address Potential Areas of Concern (PAC's), Potential Incidents of Concern (PIC's), Polychlorinated Biphenyl (PCB) sites, and Under Building Contamination (UBC) issues as listed in Table 1 and 2 of the above referenced letter. Individual Hazardous Substance Site (IHSS) boundary changes observed since the Historical Release Report was completed in June 1992 are also addressed in the Enclosure with this letter.

We have evaluated the list of PACs, PICs, and UBC locations and concur that 81 locations require further investigation. RFI/RI Work Plans and/or subsequent phases can incorporate 41 of the PAC locations (see Table 1). The 41 locations represent 6 of the 26 PCB related PAC areas, 12 of the referenced 31 UBC locations, 21 miscellaneous PACs, and 2 PIC locations. It is also our recommendation that PAC # 000-500 (the plant sewer system) be designated as a new Operable Unit (OU 17) due to its complexity. The remaining 20 PCB related PACs are not within IHSS boundaries and can be remediated under TSCA regulations in a timely manner. The remaining 19 referenced UBC locations will be incorporated into building specific D&D plans. Table 1 (enclosed) identifies dates for submitting in writing how specific PAC, PIC, and UBC investigations will be incorporated.

The recommendations set in this letter will be effective immediately upon your concurrence. Please note however that substantial modifications to existing Work Plans will affect cost and schedule. We request that a meeting be arranged at your convenience to address potential impacts to cost and schedule for several Operable Units as well as cleanup of PCB contaminated areas under TSCA.

If you have any questions regarding these recommendations, please contact Nick Demos at 966-6938.

ATTACHMENT 1

- 1) PCBs - To expedite cleanup of PAC and PIC locations identified to be contaminated with only PCBs, clean up under TSCA regulations per CFR 761.120 will be implemented upon EPA and CDH concurrence. DOE/RFO will submit Investigation and Corrective Action Plans for EPA, and CDH approval prior to initiation of work.

The following PAC and PIC sites identified as being contaminated with only PCBs will be addressed under TSCA:

PAC 100-607	PAC 500-900	PAC 600-1003	PAC 800-1207
PAC 100-608	PAC 500-901	PAC 700-1104	PAC 800-1208
PAC 300-708	PAC 500-905	PAC 700-1105	PAC 800-1209
PAC 300-709	PAC 600-1000	PAC 700-1111	PAC 900-1306
PAC 400-800	PAC 600-1002	PAC 700-1112	PIC # 41

- 2) RFI/RI Work Plan Amendments - We recommend that the following PAC, PIC, and UBC sites be added to the appropriate RFI/RI Work Plans or subsequent phases to approved Work Plans. PAC locations contaminated by PCBs and within existing IHSS boundaries are denoted with an asterisk (*).

PAC 100-602	PAC 400-810	PAC 800-1200	UBC 774	PIC #44
PAC 100-603	PAC 500-902*	PAC 800-1201	UBC 776	
PAC 100-609	PAC 500-904*	PAC 800-1204	UBC 779	
PAC 100-611	PAC 600-1001	PAC 800-1205	UBC 123	
PAC 300-702	PAC 700-1100	PAC 800-1210*	UBC 442	
PAC 400-801*	PAC 700-1101	PAC 900-1301	UBC 444	
PAC 400-802	PAC 700-1102*	PAC 900-1307	UBC 881	
PAC 400-803	PAC 700-1103*	UBC 559	UBC 883	
PAC 400-804	PAC 700-1106	UBC 707	UBC 887	
PAC 400-807	PAC 700-1108	UBC 771	PIC #9	

Operable Unit 6 (Walnut Creek Drainage)

Further investigation of PAC 900-1307 is recommended in the Phase 2 Work Plan since Phase 1 field investigations are complete. Phase 2 is scheduled to begin in the fall of 1994.

Operable Unit 8 (700 Area)

The Phase 1 RFI/RI Work Plan for OU 8 can incorporate PAC 700-1101, and PAC 700-1106 by September 1993 (via Tech Memo 1).

PAC 700-1108 and PIC #44 describe overflows and contamination

into footing drains and an isolated distillate release south of building 374. The OU 8 Phase 1 RFI/RI Work Plan will incorporate these PACs through the development of a Technical Memorandum to investigate historical records and prepare Field Sampling Plans (FSP's) for footing drains and building under-drains in the Industrial Area.

PAC 900-1301 is adjacent to IHSS 184 and 173 within Operable Unit 8. At present, radiological survey investigations of IHSS 184 are scheduled for spring 1993. The addition of four survey locations into the existing FSP would cover the investigation phase of this PAC. However, if "hot spots" are identified requiring additional sampling, overall schedule modifications should be anticipated.

Operable Unit 9 (Original Process Waste Lines)

The Phase 1 RFI/RI Work Plan for OU 9 will incorporate PAC 800-1200 and the UBC sites referenced on the previous page by fall 1993. Twelve UBC sites will be addressed without significant impacts to cost and schedule by reconfiguring borehole locations near buildings suspected of having UBC concerns.

Operable Unit 12 (400 and 800 Areas)

PAC 400-807 and PAC 400-810 have already been incorporated into the RFI/RI Work Plan for Operable Unit 12. These PACs will require no additional cost or have schedule impacts. PACs 400-803, 400-804, and 800-1201 will be incorporated by a Technical Memorandum into Phase 1. No significant impact to cost or schedule are expected for PACs 400-804 and 800-1201, however, PAC 400-803 may impact both cost and schedule for further investigation.

PAC 400-801 was documented in 1987 as being a PCB transformer leak on the roof of building 447. This PAC will be remediated under RCRA/CERCLA (IAG) regulations due to its location within IHSS's 116.1, 208, and 157.2. The site was sampled in August of 1991 and contamination was found to be 54 ppm PCB's at ground level (below a downspout). Further investigation of this area will be incorporated under Phase 1 of OU 12.

Operable Unit 13 (100 Area)

Radiological analysis (HPGe), soil gas surveys for VOCs, and soil boring activities adjacent to the Original Process Waste Line (OPWL) within IHSS 148 will adequately address further investigations for PAC 100-602 and PAC 100-603 (see section 6.3.1.6 OU 13 Work Plan). Discrete samples will be collected

at specific depths to include the following parameters: TAL metals, radionuclides, nitrates, chlorides, and sulfates. Since these PACs already exist within IHSS 148, no modifications to the OU 13 Work Plan will be required. If contaminants are found, a second stage of sampling will be proposed in the scheduled Technical Memorandum to determine the nature and extent of contamination. An effort will be made to confirm or refute recorded sampling attempts at the security incinerator in Building 123 (PAC 100-609). If no results can be obtained, then sampling recommendations will be made in the Decontamination & Decommissioning Plan for Building 123. Some sampling could be justified under stage 2 of OU 13 for this area. A Technical Memorandum will report results of the stage 1 data search and make further recommendations based upon the findings.

PAC 100-611 will be incorporated into either Stage 2 or Stage 3 of OU 13 after Stage 1 investigations are completed. Additional soil borings around the building foundation may be warranted.

PAC 300-702 will be incorporated by Technical Memorandum 1 and indicate number of samples and sampling locations to be included as part of the Integrated Surface Water and Sediment Field Sampling program. Sampling results will also be included in the Tech Memo. Sampling activities in IHSS 158 adequately address PIC #9 which include soil gas investigations for carbon tetrachloride. No specific sampling will take place to evaluate aqueous ammonia spilled in the area.

PAC 500-904 was documented in 1987 as being a PCB transformer leak south of building 223. This site will be remediated under RCRA/CERCLA (IAG) regulations due to its location within IHSS's 117.1, and 186. The transformer area was sampled in August 1991 where contamination of the soil was found to be 55 ppm PCB's. The nature and extent of contamination will be reviewed and findings incorporated into Technical Memorandum 1 to outline appropriate actions in Stage 2.

Operable Unit 14 (Radioactive Sites)

PACs 400-802, 600-1001, 500-902, 700-1102, 800-1210, and 700-1103 will be incorporated into the OU 14 Work Plan by April 1994 (via Tech Memo 1). The Majority of PAC 700-1100 is superimposed over, or adjacent, to, IHSS 131 and also part of Operable Unit 9 (OPWL). Investigation of this area will be incorporated into OU 14 Phase 1 (via Tech Memo 1). Inclusion of PACs 800-1204 and 800-1205 into Operable Unit 14 is feasible however, we request a meeting to discuss significant impacts to cost and schedule for this investigation.

- 3) New Operable Unit (OU 17) - The RFP sanitary sewer system has been used for transport, storage and treatment of sanitary waste since plant operations began in 1952. Historically, an undetermined number of incidents involving wastes other than sanitary wastes have discharged into the sewer system. Due to the vast configuration of the sewer system and its dissimilar relationship to that of the OPWL (OU 9), it is recommended that a new Operable Unit be assigned for investigating PAC 000-500. In several areas of this investigation, information obtained from field activities for OU 9 could be used in the investigation of the new OU proposed.
- 4) IHSS Boundary Changes - Upon finalization of the Historical Release Report several irregularities have been identified with respect to IHSS boundaries (see Table 1). Some of the boundary changes are a result of timing between HRR development and RFI/RI Work Plan approval. Examples of this are apparent in comparing final IHSS location maps from OU 1 and OU 2 approved Work Plans to existing HRR IHSS location maps. To address this situation, we propose the following steps: (1) where field work is done by prior interpretation, the final report will evaluate the data collected and determine if the boundary changes are adequately addressed (2) for boundary changes not resulting from prior interpretation, it may become necessary to schedule supplemental investigation activities either as another phase or addendum. In either case, a definitive approach for each effected OU will be determined in concurrence with EPA and CDH on a case by case basis.
- 5) Decontamination and Decommission D&D - The UBC sites listed below are recommended for incorporation into building specific D&D plans. Data gathered from Operable Unit Field activities (sampling, drilling etc.) near these areas would greatly contribute to the building specific D&D Plans.

UBC sites 371, 374, 528, 701, 731, 770, 777, 778, 991, 122, 125, 331, 439, 440, 441, 447, 865, 886, 889

Potential Areas of Concern/ Potential Incidents of Concern (Addition to RFI/RI Workplans)						IHSS Boundary Changes				
Operable Unit (OU)	PAC/PIC Additions (Yes/No)	PAC/PIC Numbers	Within Existing IHSS (Yes/No)	Same Contaminants of Concern (Yes/No)	Incorporated Into Workplan By?	IHSS Boundary Changes (Yes/No)	IHSS Numbers	Same Contaminants of Concern (Yes/No)	Incorporated Into Workplan By?	
OU1	No	None	N/A	N/A	N/A	Yes	102	Yes	No Impact	
OU2	No	None	N/A	N/A	N/A	Yes	110, 111.1, 111.8, 111.2, 111.3, 111.4, 111.6, 111.5, 216.3, 216.2	Yes	No Impact	
OU3	No	None	N/A	N/A	N/A	No	None	N/A	N/A	
OU4	No	None	N/A	N/A	N/A	No	None	N/A	N/A	
OU5	No	None	N/A	N/A	N/A	Yes	133.1, 133.2, 133.3, 133.4, 133.5, 115	Yes	Completed 2/28/93	
OU6	Yes	900 - 1307	No	Yes	Phase II Workplan, 10/94	Yes	143, 156.2, 167.2, 167.3	Yes	Phase II Workplan 10/94	
OU7	No	None	N/A	N/A	N/A	Yes	114	Yes	No Impact from Change	
OU8	Yes	700 - 1101, 700 - 1108, 900 - 1301, PIC#44, 700 - 1106	Yes	Yes	9/93, TM1	Yes	135, 137, 138, 139, 144, 150.2, 150.3, 150.4, 150.7, 150.6, 150.8, 163.1, 172, 173, 184, 188	Yes	Completed 12/92	
OU9	Yes	800 - 1200, UBC - 559, 707, 771, 774, 776, 779, 123, 442, 444, 881 883 - 887	Yes	Yes	10/93	Yes	121, 122, 123.2, 124, 125, 126, 127, 132, 146, 147.1, 149, 159, 215	Yes	10/93	
OU10	No	None	N/A	N/A	N/A	Yes	177	Yes	Completed 92	
OU11	No	None	N/A	N/A	N/A	No	None	N/A	N/A	
OU12	Yes	400 - 803, 400 - 804, 400 - 807, 400 - 810, 800 - 1201, 400 - 801	Yes	Yes (+PCBs)	Phase I FY94	Yes	147.1	Yes	Transferred to OUG	
OU13	Yes	100 - 602, 100 - 603, 100 - 609, 100 - 611, 300 - 702, PIC#9, 500 - 904	Yes	Yes (+PCBs)	Revised Final Phase I 3/9/93	Yes	158	Yes	Completed 10/9/92	
OU14	Yes	700 - 1100, 600 - 1001, 400 - 802, 700 - 1103, 500 - 902, 800 - 1210, 700 - 1102, 800 - 1204, 800 - 1205	Yes	Yes (+PCBs)	4/94 (TM1) Request Meeting with Agencies	Yes	156.1, 160	Yes	Completed 10/92	
OU15	No	None	N/A	N/A	N/A	No	None	N/A	N/A	
OU16	No	None	N/A	N/A	N/A	Yes	195	Yes	No Impact	

PAC REFERENCE NUMBER: NW-175

IHSS Number: Not Applicable
Unit Name: Operable Unit 10, PU&D Yard Unit
Approx. Location: N752,000; E2,082,000

Date(s) of Operation or Occurrence

1974 - Present

An occurrence was reported on December 17, 1992

Description of Operation or Occurrence

Approximately one and one half gallons of diesel fuel spilled onto the ground at the PU&D storage yard during a routine fueling operation for a fork truck. The incident was reported on December 17, 1992 to EG&G Waste Regulatory Programs, EG&G Environmental Restoration Management and the Occurrence Notification Center (ONC). A fuel nozzle assembly was placed on an automatic setting but failed to shut off automatically when the fuel tank reached capacity.

Physical/Chemical Description of Constituents Released

Based upon process knowledge, diesel spills and excavated soils are managed as RCRA-regulated waste until sampling and analysis can confirm that levels of benzene do not exceed the TCLP limit. The EPA waste code for this waste is D018. The location of the spill is identified on the enclosed map as being within the IHSS 170 boundary.

Responses to Operation or Occurrence

The soil was excavated in the spill area, after sampling was conducted to determine if potential RCRA contaminants and/or contaminants listed in the RFI/RI Work Plan for Operable Unit 10 are present. Analytical data for this spill is currently unavailable. Several drums used to contain the diesel contaminated soil will remain at the location until all the data can be reviewed. The area was surveyed on March 15, 1993.

Fate of Constituents Released to Environment

If the analysis indicate that this area is not contaminated with RCRA constituents and specific analytes listed in the RFI/RI Work Plan for Operable Unit 10 are not present, the soil will be

disposed of by incineration or offsite landfill procedures. The area impacted by this release is submitted in accordance with the Interagency Agreement (IAG), Sections I.B.3 Notification, and I.B.5.

Comments

This PAC will be re-submitted when analytical reports are made available.

References

M.L. Sievers GPS survey report - March 15, 1993

MEMO

DATE: 3/15/93

TO: N.:S. DEMOS, ENV. PROG. OPS., BLDG. 080, X5951

FROM: M. D. SIEVERS, ESE, BLDG. 080, d5145
Mark D. Sievers

SUBJECT: GPS SUVEY OF DIESEL SPILL AT PU&D YARD

Attached are the results of the location of the diesel spill at the PU&D Yard, as well as the quality assurance data related to the accuracy of the global positioning system used. The coordinates used were NAD-27 geographic coordinates, which were then converted to the state planer coordinate system, state plane zone 502. This is the coordinate system Rocky Flats is based on, and the coordinate system that ER uses. However, if you need these converted to a different system, please let me know.

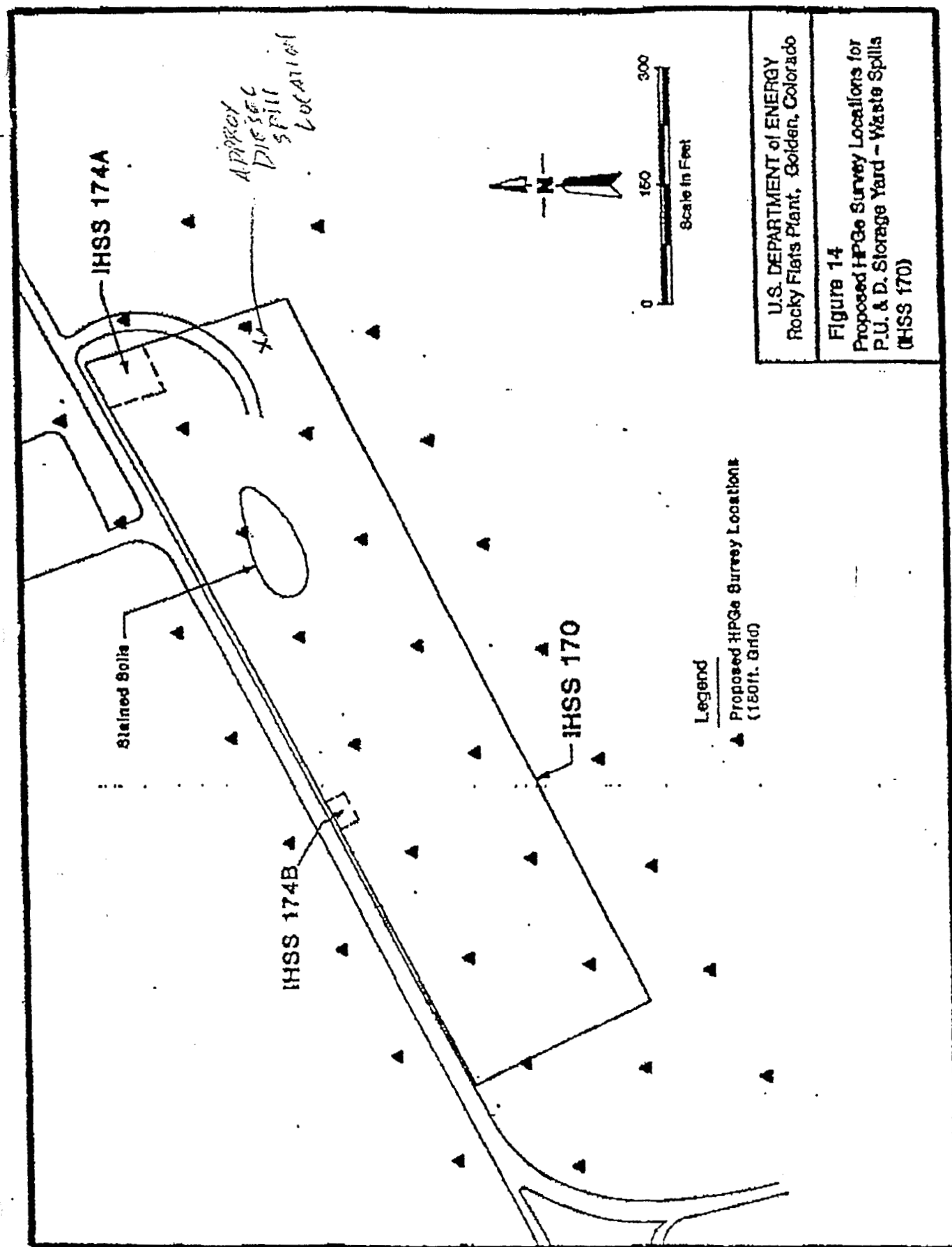
Engineer Topographic Laboratories
Star Chamber Expedition

3/12/1993

All input values are NAD 27, geographic coordinates.
All output values are NAD 27, state plane zone 502 (FEET).

STATION	INPUT (transformed to)	OUTPUT
Test WGS ENERGY 3/12/93 14:07	39 54 35.81400 N	756490.432 N
	105 09 59.20800 W	2093577.517 E
Convergence		0 12 37.33
Scale Factor		1.00003556
WGS ENERGY Actual	39 54 35.77800 N	756486.783 N
	105 09 59.23200 W	2093575.660 E
Convergence		0 12 37.31
Scale Factor		1.00003556
Diesel Spill PU&D3/12/92 14:25	39 53 47.53800 N	751565.699 N
	105 12 27.00000 W	2082075.883 E
Convergence		0 11 4.12
Scale Factor		1.00003228

*Accuracy Test : + 3.6 ft. N
+ 2.0 ft. E*



PAC REFERENCE NUMBER: NW-176

IHSS Number: Not Applicable

Unit Name: Operable Unit 10, PU&D Yard Unit

Approx. Location: N751,500; E2,082,000

Date(s) of Operation or Occurrence

1974 - Present

An occurrence was reported on November 12, 1992

Description of Operation or Occurrence

On November 12, 1992 at 1600 hours it was discovered that a reportable quantity of asbestos (approximately 1 and 1/2 pounds) was released to the environment from a boiler being stored in the PU&D storage yard.

Physical/Chemical Description of Constituents Released

The location of the spill is identified as being within the IHSS 170 boundary. The reportable quantity (RQ) established for asbestos is more than 1 pound/pint. Analytical data gathered from samples collected on May 27, 1992 show bulk asbestos concentrations at 60% of the total volume of sample analyzed. Visual observations made on November 12, 1992 indicate that approximately 15 square feet of asbestos insulation was missing.

Responses to Operation or Occurrence

The National Response Center (NRC) was notified immediately upon discovery of the boiler and subsequent missing asbestos. Containment operations began immediately by wetting down the boiler and surrounding ground and covering the area with plastic. The boiler was wrapped with plastic and taped.

Fate of Constituents Released to Environment

An unknown amount of asbestos was released to the environment. The area impacted by this release is submitted in accordance with the Interagency Agreement (IAG), Sections I.B.3 Notification, and I.B.5.

Comments

None

References

As Enclosed

Analytical data from Pace Laboratories



REPORT OF LABORATORY ANALYSIS

EG&G Rocky Flats, Inc.
P.O. Box 464, T452G
Golden, CO 80402

May 27, 1992
PACE Project Number: D205185

Attn: Mr. Scott Hickerson

Client Reference: 141A / J. E. Sanchez

PACE Sample Number:

Date Collected:

Date Received:

Client Sample ID:

Parameter

65 0046869 65 0046877 65 0046881

05/12/92 05/12/92 05/12/92

05/18/92 05/18/92 05/18/92

PUD 920512 PUD 920512 PUD 920512

13-01 13-02 13-03

Units

MDL

INORGANIC ANALYSIS

BULK ASBESTOS

Chrysotile Asbestos

Amosite Asbestos

Crocidolite Asbestos

Tremolite/Actinolite

Anthophyllite

Total Asbestos

%

1

60

60

60

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

60

60

60

MDL

Method Detection Limit

ND

Not detected at or above the MDL.

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FAX: 303-278-2121

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PAC REFERENCE NUMBER: NE-1404

IHSS Number: Not Applicable

Unit Name: Operable Unit 2, Phase 2, Field Treatability Unit

Approx. Location: N750,000; E2,087,500

Date(s) of Operation or Occurrence

May 13, 1991 to Present

An occurrence was reported on January 14, 1993

Description of Operation or Occurrence

A release of approximately 20 gallons of diesel fuel was reported at 9:00 am on January 14, 1993.

A release to the environment of greater than the reportable quantity (RQ) of RCRA-regulated hazardous waste was reported at 9:00 am January 14, 1993. The hazardous substance release was the result of overfilling a diesel fuel tank which supplied a portable generator for the OU 2 Treatment Facility.

Approximately twenty gallons of fuel was spilled onto the ground while fueling operations were taking place. The release was cleaned up with absorbent material and later excavated until all indication of fuel presence was gone. Seventeen gray drums were filled the following day with soil contaminated by diesel fuel.

Physical/Chemical Description of Constituents Released

Based upon process knowledge, diesel spills and excavated soils are managed as RCRA-regulated waste until sampling and analysis can confirm that levels of benzene do not exceed the TCLP limit. The EPA waste code for this waste is D018. The location of the spill is not within an IHSS boundary.

Responses to Operation or Occurrence

Prior to excavation of soils in the spill area, sampling was conducted to determine if potential RCRA contaminants were present. Six total samples were collected from the spill area. Two samples were collected from soil mixed with diesel fuel, another two samples were collected from a pool of fuel and two samples were collected from a nearby snowbank which absorbed some of the diesel. Analytical data show that the spilled diesel fuel was not a RCRA regulated waste. The analysis consisted of TAL VOA's and TCLP Volatiles. The soil was then excavated until no presence of

contamination was evident. Seventeen drums were filled with soil and road gravel was placed in the excavation.

Fate of Constituents Released to Environment

Containerized soil (17 drums) await offsite shipment to an incineration facility.

The area impacted by this release is submitted in accordance with the Interagency Agreement (IAG), Sections I.B.3 Notification, and I.B.5.

Comments

None

References

As enclosed

Analytical Data for Volatile Organic Analysis (VOA)

ANALYTICAL REPORT

EG&G ROCKY FLATS, INC.
ROCKY FLATS PLANT
P.O. BOX 464
GOLDEN, COLORADO 80402

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

M. L. Johnson, Spill Response, T130C
Ron Teel, Liq. Waste, 374
Ron Henry, Surface Water, T130B
Norm Cypher, Liq. Waste, 374
Wastren

LAB NUMBER: 93X0001
DATE: February 2, 1993
ACCOUNT NO: 986961

File

APPROVED: 

T. D. Santa Cruz

SAMPLE DESCRIPTION

Six samples were collected on 01/04/93 from the diesel fuel spill (fuel conditioner had been added to polar power). Two samples were taken from the soil with diesel, two of the fuel, and two from the snow. The samples were analyzed for TAL VOAs and TCLP Volatiles.

ANALYSIS RESULTS

See Attached Reports.

bmr

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 00103

Lab Name: GLAB

Contract:

Lab Code: GLAB

Case No.:

SAS No.: 93X0

SDG No.:

Matrix: (soil/water) SOIL

Lab Sample ID: PURE FUEL

Sample wt/vol: 1. (g/mL) G

Lab File ID: JAN2201

Level: (low/med) MED

Date Received: 1/14/92

Moisture: not dec. 0.

Date Analyzed: 1/22/93

Column: (pack/cap) CAP

Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	G
---------	----------	---	---

74-87-3	-----Chloromethane	500.	U
74-83-9	-----Bromomethane	500.	U
75-01-4	-----Vinyl Chloride	500.	U
75-00-3	-----Chloroethane	500.	U
75-09-2	-----Methylene Chloride	89.	BJ
67-64-1	-----Acetone	500.	U
75-15-0	-----Carbon Disulfide	250.	U
75-35-4	-----1,1-Dichloroethene	250.	U
75-34-3	-----1,1-Dichloroethane	250.	U
540-59-0	-----1,2-Dichloroethene (total)	250.	U
67-66-3	-----Chloroform	250.	U
107-06-2	-----1,2-Dichloroethane	250.	U
78-93-3	-----2-Butanone	500.	U
71-55-6	-----1,1,1-Trichloroethane	250.	U
56-23-5	-----Carbon Tetrachloride	250.	U
75-27-4	-----Bromodichloromethane	250.	U
78-87-5	-----1,2-Dichloropropane	250.	U
10061-01-5	-----cis-1,3-Dichloropropene	250.	U
79-01-6	-----Trichloroethene	250.	U
124-48-1	-----Dibromochloromethane	250.	U
79-00-5	-----1,1,2-Trichloroethane	250.	U
71-43-2	-----Benzene	33.	J
10061-02-6	-----trans-1,3-Dichloropropene	250.	U
75-25-2	-----Bromoform	250.	U
108-10-1	-----4-Methyl-2-Pentanone	500.	U
591-78-6	-----2-Hexanone	500.	U
127-18-4	-----Tetrachloroethene	250.	U
79-34-5	-----1,1,2,2-Tetrachloroethane	250.	U
108-88-3	-----Toluene	320.	
108-90-7	-----Chlorobenzene	250.	U
100-41-4	-----Ethylbenzene	380.	
100-42-5	-----Styrene	250.	U
108-38-3	-----Xylenes (total)	450.	
60-29-7	-----Ethyl Ether	250.	U
75-69-4	-----Trichlorofluoromethane	250.	U
76-13-1	-----Trich-triflethane	250.	U
141-78-6	-----Ethyl Acetate	250.	U
95-47-6	-----o-Xylene	470.	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

00101EB

Lab Name: GLAB

Contract:

Lab Code: GLAB

Case No.:

SAS No.: 93X0

SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: OIL IN SOIL

Sample wt/vol: 5. (g/mL) ML

Lab File ID: JAN2101

Level: (low/med) LOW

Date Received: 1/19/93

Moisture: not dec.100.

Date Analyzed: 1/21/93

Column: (pack/cap) CAP

Dilution Factor: 10.00

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg) UG/L

Q

74-87-3	Chloromethane	100.	U
74-83-9	Bromomethane	100.	U
75-01-4	Vinyl Chloride	100.	U
75-00-3	Chloroethane	100.	U
75-09-2	Methylene Chloride	12.	BU
67-64-1	Acetone	100.	U
75-15-0	Carbon Disulfide	50.	U
75-35-4	1,1-Dichloroethene	50.	U
75-34-3	1,1-Dichloroethane	50.	U
540-59-0	1,2-Dichloroethene (total)	50.	U
67-66-3	Chloroform	50.	U
107-06-2	1,2-Dichloroethane	50.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	50.	U
56-23-5	Carbon Tetrachloride	50.	U
75-27-4	Bromodichloromethane	50.	U
78-87-5	1,2-Dichloropropane	50.	U
10061-01-5	cis-1,3-Dichloropropene	50.	U
79-01-6	Trichloroethene	50.	U
124-48-1	Dibromochloromethane	50.	U
79-00-5	1,1,2-Trichloroethane	50.	U
71-43-2	Benzene	50.	U
10061-02-6	trans-1,3-Dichloropropene	50.	U
75-25-2	Bromoform	50.	U
108-10-1	4-Methyl-2-Pentanone	100.	U
591-78-6	2-Hexanone	100.	U
127-18-4	Tetrachloroethene	50.	U
79-34-5	1,1,2,2-Tetrachloroethane	50.	U
108-88-3	Toluene	50.	U
108-90-7	Chlorobenzene	50.	U
100-41-4	Ethylbenzene	50.	U
100-42-5	Styrene	50.	U
108-38-3	Xylenes (total)	50.	U
60-29-7	Ethyl Ether	50.	U
75-69-4	Trichlorofluoromethane	50.	U
76-13-1	Trich-triflethane	50.	U
141-78-6	Ethyl Acetate	50.	U
95-47-6	o-Xylene	50.	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

00502

Lab Name: GLAB

Contract:

Lab Code: GLAB

Case No.:

SAS No.: 92X0

SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: B-2 SOIL

Sample wt/vol: 5. (g/mL) ML

Lab File ID: OCT2902

Level: (low/med) LOW

Date Received: 10/29/92

% Moisture: not dec.100.

Date Analyzed: 10/29/92

Column: (pack/cap) CAP

Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

74-87-3-----	Chloromethane	100.	U
74-83-9-----	Bromomethane	100.	U
75-01-4-----	Vinyl Chloride	100.	U
75-00-3-----	Chloroethane	100.	U
75-09-2-----	Methylene Chloride	50.	U
67-64-1-----	Acetone	100.	U
75-15-0-----	Carbon Disulfide	50.	U
75-35-4-----	1,1-Dichloroethene	50.	U
75-34-3-----	1,1-Dichloroethane	50.	U
540-59-0-----	1,2-Dichloroethene (total)	50.	U
67-66-3-----	Chloroform	50.	U
107-06-2-----	1,2-Dichloroethane	50.	U
78-93-3-----	2-Butanone	100.	U
71-55-6-----	1,1,1-Trichloroethane	50.	U
56-23-5-----	Carbon Tetrachloride	50.	U
75-27-4-----	Bromodichloromethane	50.	U
78-87-5-----	1,2-Dichloropropane	50.	U
10061-01-5-----	cis-1,3-Dichloropropene	50.	U
79-01-6-----	Trichloroethene	50.	U
124-48-1-----	Dibromochloromethane	50.	U
79-00-5-----	1,1,2-Trichloroethane	50.	U
71-43-2-----	Benzene	50.	U
10061-02-6-----	trans-1,3-Dichloropropene	50.	U
75-25-2-----	Bromoform	50.	U
108-10-1-----	4-Methyl-2-Pentanone	50.	U
591-78-6-----	2-Hexanone	50.	U
127-18-4-----	Tetrachloroethene	50.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	50.	U
108-88-3-----	Toluene	31.	J
108-90-7-----	Chlorobenzene	50.	U
100-41-4-----	Ethylbenzene	21.	J
100-42-5-----	Styrene	50.	U
1330-20-7-----	Xylenes (total)	120.	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

00504

Lab Name: GLAB

Contract:

Lab Code: GLAB

Case No.:

SAS No.: 92X0

SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: B-2 SOCK

Sample wt/vol: 5. (g/mL) ML

Lab File ID: OCT2904

Level: (low/med) LOW

Date Received: 10/29/92

% Moisture: not dec.100.

Date Analyzed: 10/29/92

Column: (pack/cap) CAP

Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

74-87-3-----	Chloromethane	100.	U
74-83-9-----	Bromomethane	100.	U
75-01-4-----	Vinyl Chloride	100.	U
75-00-3-----	Chloroethane	100.	U
75-09-2-----	Methylene Chloride	50.	U
67-64-1-----	Acetone	100.	U
75-15-0-----	Carbon Disulfide	50.	U
75-35-4-----	1,1-Dichloroethene	50.	U
75-34-3-----	1,1-Dichloroethane	50.	U
540-59-0-----	1,2-Dichloroethene (total)	50.	U
67-66-3-----	Chloroform	50.	U
107-06-2-----	1,2-Dichloroethane	50.	U
78-93-3-----	2-Butanone	100.	U
71-55-6-----	1,1,1-Trichloroethane	50.	U
56-23-5-----	Carbon Tetrachloride	50.	U
75-27-4-----	Bromodichloromethane	50.	U
78-87-5-----	1,2-Dichloropropane	50.	U
10061-01-5-----	cis-1,3-Dichloropropene	50.	U
79-01-6-----	Trichloroethene	50.	U
124-48-1-----	Dibromochloromethane	50.	U
79-00-5-----	1,1,2-Trichloroethane	50.	U
71-43-2-----	Benzene	50.	U
10061-02-6-----	trans-1,3-Dichloropropene	50.	U
75-25-2-----	Bromoform	50.	U
108-10-1-----	4-Methyl-2-Pentanone	50.	U
591-78-6-----	2-Hexanone	50.	U
127-18-4-----	Tetrachloroethene	50.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	50.	U
108-88-3-----	Toluene	50.	U
108-90-7-----	Chlorobenzene	50.	U
100-41-4-----	Ethylbenzene	50.	U
100-42-5-----	Styrene	50.	U
1330-20-7-----	Xylenes (total)	50.	U

PAC REFERENCE NUMBER: 000-502

IHSS Number: Not Applicable

Unit Name: Hillside spill North of Solar Evaporation
Pond 207B North

Approx. Location: N751,000; E2,085,000

Date(s) of Operation or Occurrence

November 30, 1992

Description of Operation or Occurrence

A release of approximately 490 gallons of interceptor trench water was reported at 1:45 am on November 30, 1992. Surface water runoff and potentially contaminated groundwater are collected in the Interceptor Trench Pump House (ITPH) system prior to being pumped from a centralized sump into the 207B North Solar Evaporation Pond. The release originated from a separation of a pipe coupling in the 3" transfer line on the east slope of the 207B North Solar Evaporation Pond berm and flowed onto the surrounding soil.

The 3 ft. section of drain hose that was connected to the end of the inlet pipe to the 207B North Pond had frozen during several days of sub zero weather and caused a back pressure in the pipe when the interceptor central sump began to pump water into the pond.

Physical/Chemical Description of Constituents Released

The interceptor trench water is managed as RCRA-regulated hazardous waste because the groundwater may contain RCRA-regulated hazardous constituents due to the possibility of releases from the Solar Evaporation Ponds. Previous analytical testing indicate that listed hazardous waste constituents have been detected in the interceptor trench water. The material in the Solar Evaporation Ponds has been characterized as RCRA-regulated waste with the following EPA waste codes: D006, F001, F002, F003, F005, F006, F007, and F009. A sample of the water was taken on November 30, 1992 and preliminary results indicate that CLP volatiles are comparable to analytical results taken previously for this waste stream (Table 1). Upon validation of analytical results, all data will be forwarded to the Colorado Dept. of Health (CDH).

Table 1

	Mean ug/l	Standard Deviation	Maximum Detected	Number Detects	Number samples
Cadmium	1.84*	0.81	7.50 U	0	24
Chromium	9.84	11.10	32.50	8	26
Lead	1.23	0.80	3.60	2	28
Mercury	0.15	0.13	0.63	4	27
Silver	3.93	2.56	11.10	2	22
Carbon Tetrachloride	2.58	1.85	11.00	1	25
Toluene	2.50*	0.00	5.00 U	0	25
Trichloroethene	3.02	1.20	7.00	2	26

Note: * Mean calculated using half the detection limit for concentrations at the detection limit

U Analyzed but not detected

Responses to Operation or Occurrence

CDH was notified on November 30, 1992 that the RCRA Contingency Plan had been implemented. The Environmental Protection Agency, Region Vlll was notified by facsimile on December 1, 1992.

The pipe connection has been repaired and the system was placed back into service. The released material was not directly recoverable because it soaked into the soil. Due to the location of the release (upgradient of the ITPH system in an area previously identified to be possibly contaminated by past releases from the proximal Solar Evaporation Ponds), no action was taken to immediately recover the material.

Fate of Constituents Released to Environment

The area impacted by this release is submitted in accordance with the IAG, Sections I.B.3 Notification, and I.B.5 Historical Release Report for final disposition.

Comments

Map generation of spill area and survey coordinates are in progress. Addition of current validated analytical results will be transmitted to the EPA and CDH upon receipt to accompany this update.

References

As enclosed:

RCRA Contingency Plan Implementation Report No. 92-023

PAC REFERENCE NUMBER: NW-177

IHSS Number: 114, Operable Unit 7, Sanitary Landfill

Unit Name: Present Landfill

Approx. Location: N752,500; E2,083,000

Date(s) of Operation or Occurrence

The present sanitary landfill has been in operation from August 14, 1968 to present.

An occurrence was reported on September 25, 1992

Description of Operation or Occurrence

A release to the environment of greater than the reportable quantity (RQ) of RCRA-regulated hazardous waste was reported on September 25, 1992. The hazardous substance release was the result of improper disposal of cleanup materials (soil and absorbent) from a diesel fuel spill at the present landfill location.

Approximately one gallon of fuel was spilled onto the asphalt surface while patching the building 850 parking lot. The release was cleaned up with 50 pounds of soil and oil-dri absorbent and inadvertently taken to the landfill for disposal.

Physical/Chemical Description of Constituents Released

Based upon process knowledge, cleanup materials from diesel spills are managed as RCRA-regulated waste because the material could contain levels of benzene that exceed the TCLP limit. The EPA waste code for this waste is D018.

Responses to Operation or Occurrence

CDH was notified on September 25, 1992 that the RCRA Contingency Plan had been implemented as a precautionary measure. The Environmental Protection Agency, Region VIII was notified by facsimile on September 28, 1992. An estimated 100 pounds of material suspected to be contaminated were recovered from the landfill release location and disposed of properly.

Fate of Constituents Released to Environment

The area impacted by this release is submitted in accordance with the IAG, Sections I.B.3 Notification, and I.B.5 Historical Release Report for final disposition. Any material not recovered, will be remediated with the landfill as part of Operable Unit 7.

Comments

This release does not add additional scope or cost variables for incorporation into Operable Unit 7 and will be incorporated under existing work plans.

References

As enclosed:

RCRA Contingency Plan Implementation Report No. 92-021

PAC REFERENCE NUMBER: 400-811

IHSS Number: Not Applicable

Unit Name: Transformer 443-2, Building 443

Approx. Location: N749,500; E2,082,000

Date(s) of Operation or Occurrence

Unknown

Description of Operation or Occurrence

Transformer 443-2 is located near the southwest corner of Building 443. The transformer was observed leaking small quantities of oil during a routine inspection in April of 1992. The area is surrounded by a concrete berm and restricted by a fence.

This site was not originally sampled as part of the sitewide screening effort to categorize the 35 suspected PCB sites in August of 1991. However, the surrounding soil was sampled in the same manner as the other sites in August of 1991 as requested by EG&G Utilities Dept. for an electrical upgrade construction project.

Physical/Chemical Description of Constituents Released

Analytical data show PCB contamination is present in soils surrounding the transformer at 230 parts per million (ppm). Radiological samples collected at the same time were analyzed and indicate background levels for Pu, U, and Am. Wipe samples collected from the outside of the transformer in April 1992 indicate that the present dielectric oil is PCB contaminated at 2000 ug/100²cm (outside). Oil samples were also analyzed in April 1992 and show that the oil is contaminated at levels of 12,000 ppm.

Responses to Operation or Occurrence

The transformer has been taken out of service since April 1992 and notification was made to DOE at the time of the incident. This site is currently being addressed by EG&G with the transformer, oil, and concrete pad cleanup actions under TSCA regulations. All contaminated soils are to be remediated under CERCLA cleanup standards to 1 ppm. Work is scheduled to begin in early March 1993.

Fate of Constituents Released to Environment

The area impacted by this release is submitted in accordance with the IAG, Sections I.B.3 Notification, and I.B.5 Historical Release Report for final disposition.

Comments

A site location map and analytical data from soil sampling, wipe sampling and analysis of the present oil is enclosed with this update.

References

As enclosed:

EG&G Rocky Flats Environmental Management Department Assessment of Potential Releases of Polychlorinated Biphenyls (PCBs), Preliminary Assessment/Site Description, July 1991

MAP LEGEND

PAVED ROADS

FENCE(S)

BUILDINGS

APPROXIMATE
TRANSFORMER/
PAD LOCATIONS
(NOT TO SCALE)

APPROXIMATE
SAMPLE LOCATIONS



0 feet 25 50

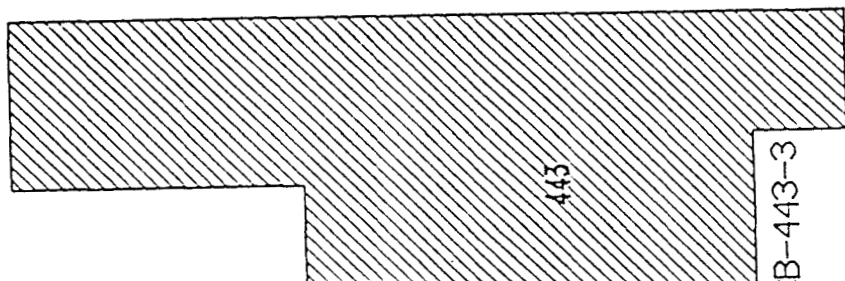
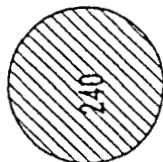
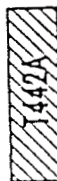
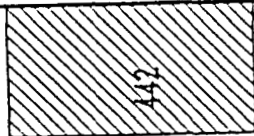
U.S. DEPARTMENT
of ENERGY

Rocky Flats Plant
Golden, Colorado

PRELIMINARY PCB
INVESTIGATION

SITE No. 443-2
(special)

SEPTEMBER 25, 199

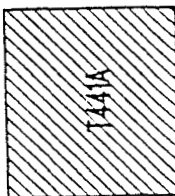


PCB-443-4

PCB-443-3

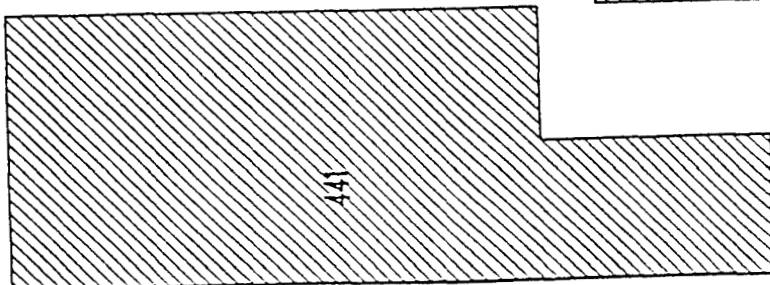
TRANSFORMER

VACANT PAD



PCB-443-1

PCB-443-2



SAMPLE LOCATION	SAMPLE NUMBER	SAMPLE ANALYTE(S)
PCB-443-2-1	SS00517ST	PCB _a
PCB-443-2-2	SS00521ST	Pu, Am, U
PCB-443-2-3	SS00518ST	PCB _a
PCB-443-2-4	SS00522ST	Pu, Am, U
	SS00519ST	PCB _a
	SS00523ST	Pu, Am, U
	SS00520ST	PCB _a
	SS00524ST	Pu, Am, U

Sample Information	Cust ID:	RFX#:	Matrix:	D.F.:	Units:	SS00517ST			SS00518ST			SS00519ST		
						001	002	003	001	002	003	001	002	003
						SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						5.00	500	5.00	500	500	5.00	5.00	5.00	5.00
						ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate: Di-n-butylchloro						58	%	D	%	D	%	44	%	D
Aroclor-1016						430	U	44000	U	44000	U	410	U	410
Aroclor-1221						430	U	44000	U	44000	U	410	U	410
Aroclor-1232						430	U	44000	U	44000	U	410	U	410
Aroclor-1242						430	U	44000	U	44000	U	410	U	410
Aroclor-1248						690	U	44000	U	44000	U	410	U	410
Aroclor-1254						700	U	230000	U	230000	U	1300	U	1300
Aroclor-1260						860	U	80000	U	80000	U	990	U	990
								87000	U	87000	U	820	U	820

Sample Information	Cust ID:	RFX#:	Matrix:	D.F.:	Units:	SS00520ST			SS00520ST			SS00520ST		
						004	004	004	004	004	004	004	004	004
						SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
						ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate: Di-n-butylchloro						D	%	D	%	D	%	D	%	D
Aroclor-1016						4000	U	4100	U	4100	U	4100	U	4100
Aroclor-1221						4000	U	4100	U	4100	U	4100	U	4100
Aroclor-1232						4000	U	4100	U	4100	U	4100	U	4100
Aroclor-1242						4000	U	4100	U	4100	U	4100	U	4100
Aroclor-1248						4000	U	4100	U	4100	U	4100	U	4100
Aroclor-1254						4000	U	4100	U	4100	U	4100	U	4100
Aroclor-1260						9200	U	D	%	D	%	D	%	D
						8100	U	8100	U	8100	U	8100	U	8100

Analyzed, not detected. J- Present below detection limit. B- Present in blank. NR- Not requested. HS- Not spiked.
Percent recovery. D- Diluted out. I- Interference. NA- Not Applicable. *- Outside of EPA CLP QC

Location ST	Sample Number	Smpl Date	D	ID	Group	Chemical	Result	Unit	Error	Qual	D.LMT	VA	RH1	RH2	RH3	RH4	Qual	Result
PCB-443- SO	SS00521ST	22-JUL-91	N	TRG	TRADES	AMERICIUM-241	.0162	PCI/G	.00915	J	.02							.0162
PCB-443- SO	SS00521ST	22-JUL-91	N	TRG	TRADES	PLUTONIUM-239/240	.08751	PCI/G	.0267		.03							.08751
PCB-443- SO	SS00521ST	22-JUL-91	N	TRG	TRADES	URANIUM-233,-234	1.301	PCI/G	.315		.3							1.301
PCB-443- SO	SS00521ST	22-JUL-91	N	TRG	TRADES	URANIUM-235	.0392	PCI/G	.0456	J	.3							.0392
PCB-443- SO	SS00521ST	22-JUL-91	N	TRG	TRADES	URANIUM-238	1.331	PCI/G	.319		.3							1.331
PCB-443- SO	SS00522ST	22-JUL-91	N	TRG	TRADES	AMERICIUM-241	.02373	PCI/G	.0112		.02							.02373
PCB-443- SO	SS00522ST	22-JUL-91	N	TRG	TRADES	PLUTONIUM-239/240	.08354	PCI/G	.0267		.03							.08354
PCB-443- SO	SS00522ST	22-JUL-91	N	TRG	TRADES	URANIUM-233,-234	1.317	PCI/G	.326		.3							1.317
PCB-443- SO	SS00522ST	22-JUL-91	N	TRG	TRADES	URANIUM-235	.06834	PCI/G	.0629	J	.3							.06834
PCB-443- SO	SS00522ST	22-JUL-91	N	TRG	TRADES	URANIUM-238	1.22	PCI/G	.31		.3							1.22
PCB-443- SO	SS00523ST	22-JUL-91	N	TRG	TRADES	AMERICIUM-241	.01714	PCI/G	.00932	J	.02							.01714
PCB-443- SO	SS00523ST	22-JUL-91	N	TRG	TRADES	PLUTONIUM-239/240	.02969	PCI/G	.0152	J	.03							.02969
PCB-443- SO	SS00523ST	22-JUL-91	N	TRG	TRADES	URANIUM-233,-234	2.067	PCI/G	.522		.3							2.067
PCB-443- SO	SS00523ST	22-JUL-91	N	TRG	TRADES	URANIUM-235	.1007	PCI/G	.0914	J	.3							.1007
PCB-443- SO	SS00523ST	22-JUL-91	N	TRG	TRADES	URANIUM-238	1.389	PCI/G	.399		.3							1.389
PCB-443- SO	SS00524ST	22-JUL-91	N	TRG	TRADES	AMERICIUM-241	.02651	PCI/G	.0116		.02							.02651
PCB-443- SO	SS00524ST	22-JUL-91	N	TRG	TRADES	PLUTONIUM-239/240	.05259	PCI/G	.0222		.03							.05259
PCB-443- SO	SS00524ST	22-JUL-91	N	TRG	TRADES	URANIUM-233,-234	2.55	PCI/G	.765		.3							2.55
PCB-443- SO	SS00524ST	22-JUL-91	N	TRG	TRADES	URANIUM-235	1.204	PCI/G	.466		.3							1.204
PCB-443- SO	SS00524ST	22-JUL-91	N	TRG	TRADES	URANIUM-238	2.185	PCI/G	.686		.3							2.185

Batch Number: 9204G715

Client: EG & G Rock

Work Order: 0000-00-00-0000

by GC

ats Plant

Sample Information

Cust ID: 443-92-04-06 443-92-04-06 443-92-04-06 443-92-04-06 443-92-04-06
 -12-01 -12-02 -12-03 -12-04
 RFW#: 001 002 003 004
 Matrix: WIPE WIPE WIPE WIPE
 D.F.: 100 200 200 1.00
 Units: ug/WIPE ug/WIPE ug/WIPE ug/WIPE
 PBLK BS PBLK 92GP0291-MB1 92GP0291-MB1
 WIPE WIPE
 1.00 1.00
 ug/WIPE ug/WIPE

Surrogate: Di-n-butylchloroendate	D	%	D	%	D	%	D	%	D	%
Aroclor-1016	24	U	48	U	48	U	48	U	48	U
Aroclor-1221	24	U	48	U	48	U	48	U	48	U
Aroclor-1232	24	U	48	U	48	U	48	U	48	U
Aroclor-1242	24	U	1800	U	2000	U	2000	U	2000	U
Aroclor-1248	440	U	48	U	48	U	48	U	48	U
Aroclor-1254	48	U	96	U	96	U	96	U	96	U
Aroclor-1260	48	U	96	U	96	U	96	U	96	U

Cust ID: PBLK BSD

Sample Information

RFW#: 92GP0291-MB1
 Matrix: WIPE
 D.F.: 1.00
 Units: ug/WIPE

Surrogate: Di-n-butylchloroendate	73	%
Aroclor-1016	0.24	U
Aroclor-1221	0.24	U
Aroclor-1232	0.24	U
Aroclor-1242	0.24	U
Aroclor-1248	0.24	U
Aroclor-1254	122	%
Aroclor-1260	0.48	U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
 %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

PAC REFERENCE NUMBER: NE-1404

IHSS Number: 142.6, Operable Unit 6, Walnut Creek Drainage

Unit Name: Retention Pond B-2, Walnut Creek Drainage

Approx. Location: N750,500; E2,087,000

Date(s) of Operation or Occurrence

A Diesel spill reported on October 27, 1992 within the spillway (northeast corner) of Pond B-2.

Description of Operation or Occurrence

A release to the environment of greater than the reportable quantity (RQ) of RCRA-regulated hazardous waste was reported on September 25, 1992. The hazardous substance release was the result a leak in the fuel tank of a portable pump used to transfer water from Pond B-2 to Pond A-2. Approximately 18 gallons of diesel fuel were spilled directly onto the ground.

Physical/Chemical Description of Constituents Released

Based upon process knowledge, cleanup materials from diesel spills are managed as RCRA-regulated waste because the material could contain levels of benzene that exceed the TCLP limit. The EPA waste code for this waste is D018. Samples collected from the soil were analyzed for TCLP volatiles and gross alpha beta radiological screens. The analytical data show that there were no RCRA-regulated hazardous constituents associated with the release and radiological screens were below background.

Responses to Operation or Occurrence

The pump was taken out of service for repair. An estimated 200 pounds of material (soil and absorbent booms) suspected to be contaminated was recovered from the spill area and containerized in drums and one half crate plywood box. The area was declared a RCRA 90 day accumulation area until analytical data were received on October 29, 1992. Notifications were made to the Occurrence Notification Center (ONC), the National Response Center (NRC), the Colorado Dept. of Health (CDH), and the State Oil Inspector on October 27, 1992.

Fate of Constituents Released to Environment

The area impacted by this release is submitted in accordance with the IAG, Sections I.B.3 Notification, and I.B.5 Historical Release Report for final disposition.

Comments

None.

References

As enclosed:

Analytical Data for TCLP Volatiles.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

00502

Lab Name: GLAB

Contract:

Lab Code: GLAB

Case No.:

SAS No.: 92X0

SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: B-2 SOIL

Sample wt/vol: 5. (g/mL) ML

Lab File ID: OCT2902

Level: (low/med) LOW

Date Received: 10/29/92

% Moisture: not dec.100.

Date Analyzed: 10/29/92

Column: (pack/cap) CAP

Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

74-87-3-----	Chloromethane	100.	U
74-83-9-----	Bromomethane	100.	U
75-01-4-----	Vinyl Chloride	100.	U
75-00-3-----	Chloroethane	100.	U
75-09-2-----	Methylene Chloride	50.	U
67-64-1-----	Acetone	100.	U
75-15-0-----	Carbon Disulfide	50.	U
75-35-4-----	1,1-Dichloroethene	50.	U
75-34-3-----	1,1-Dichloroethane	50.	U
540-59-0-----	1,2-Dichloroethene (total)	50.	U
67-66-3-----	Chloroform	50.	U
107-06-2-----	1,2-Dichloroethane	50.	U
78-93-3-----	2-Butanone	100.	U
71-55-6-----	1,1,1-Trichloroethane	50.	U
56-23-5-----	Carbon Tetrachloride	50.	U
75-27-4-----	Bromodichloromethane	50.	U
78-87-5-----	1,2-Dichloropropane	50.	U
10061-01-5-----	cis-1,3-Dichloropropene	50.	U
79-01-6-----	Trichloroethene	50.	U
124-48-1-----	Dibromochloromethane	50.	U
79-00-5-----	1,1,2-Trichloroethane	50.	U
71-43-2-----	Benzene	50.	U
10061-02-6-----	trans-1,3-Dichloropropene	50.	U
75-25-2-----	Bromoform	50.	U
108-10-1-----	4-Methyl-2-Pentanone	50.	U
591-78-6-----	2-Hexanone	50.	U
127-18-4-----	Tetrachloroethene	50.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	50.	U
108-88-3-----	Toluene	31.	J
108-90-7-----	Chlorobenzene	50.	U
100-41-4-----	Ethylbenzene	21.	J
100-42-5-----	Styrene	50.	U
1330-20-7-----	Xylenes (total)	120.	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

00504

Lab Name: GLAB

Contract:

Lab Code: GLAB

Case No.:

SAS No.: 92X0

SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: B-2 SOCK

Sample wt/vol: 5. (g/mL) ML

Lab File ID: OCT2904

Level: (low/med) LOW

Date Received: 10/29/92

% Moisture: not dec.100.

Date Analyzed: 10/29/92

Column: (pack/cap) CAP

Dilution Factor: 10.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

74-87-3-----	Chloromethane	100.	U
74-83-9-----	Bromomethane	100.	U
75-01-4-----	Vinyl Chloride	100.	U
75-00-3-----	Chloroethane	100.	U
75-09-2-----	Methylene Chloride	50.	U
67-64-1-----	Acetone	100.	U
75-15-0-----	Carbon Disulfide	50.	U
75-35-4-----	1,1-Dichloroethene	50.	U
75-34-3-----	1,1-Dichloroethane	50.	U
540-59-0-----	1,2-Dichloroethene (total)	50.	U
67-66-3-----	Chloroform	50.	U
107-06-2-----	1,2-Dichloroethane	50.	U
78-93-3-----	2-Butanone	100.	U
71-55-6-----	1,1,1-Trichloroethane	50.	U
56-23-5-----	Carbon Tetrachloride	50.	U
75-27-4-----	Bromodichloromethane	50.	U
78-87-5-----	1,2-Dichloropropane	50.	U
10061-01-5-----	cis-1,3-Dichloropropene	50.	U
79-01-6-----	Trichloroethene	50.	U
124-48-1-----	Dibromochloromethane	50.	U
79-00-5-----	1,1,2-Trichloroethane	50.	U
71-43-2-----	Benzene	50.	U
10061-02-6-----	trans-1,3-Dichloropropene	50.	U
75-25-2-----	Bromoform	50.	U
108-10-1-----	4-Methyl-2-Pentanone	50.	U
591-78-6-----	2-Hexanone	50.	U
127-18-4-----	Tetrachloroethene	50.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	50.	U
108-88-3-----	Toluene	50.	U
108-90-7-----	Chlorobenzene	50.	U
100-41-4-----	Ethylbenzene	50.	U
100-42-5-----	Styrene	50.	U
1330-20-7-----	Xylenes (total)	50.	U

11551

EG&G ROCKY FLATS

EG&G ROCKY FLATS, INC.

ROCKY FLATS PLANT, P.O. BOX 464, GOLDEN, COLORADO 80402-0464 • (303) 956-7000

October 9, 1992

92-RF-11851

Frederick R. Dowsett, PhD., Unit Leader
Monitoring and Enforcement
Hazardous Materials and
Waste Management Division
Colorado Department of Health
4300 Cherry Creek Drive South
Denver, Colorado 80222-1530

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) CONTINGENCY PLAN
IMPLEMENTATION REPORT 92-021 - JMK-0969-92

Enclosed is RCRA Contingency Plan Implementation Report No. 92-021 which documents the status and information concerning a release to the environment of greater than one pint/one pound of RCRA-regulated hazardous waste. The release was a result of improper disposal at the sanitary landfill located at the Rocky Flats Plant (RFP) of cleanup materials (soil and absorbent) from a diesel fuel spill. Approximately one gallon of diesel fuel was spilled onto an asphalt surface while patching Building 850 parking lot. The fuel release was cleaned up with approximately 50 pounds of soil and oil-dri which were used to absorb the liquid residue from the asphalt surface. The contaminated soil and absorbent were then inappropriately placed in the back of a subcontractor's dump truck which was en route to the sanitary landfill with approximately eight yards of dirt. The dirt and cleanup materials were subsequently unloaded at the sanitary landfill. Based on process knowledge, cleanup materials from diesel fuel spills at RFP are managed as RCRA-regulated waste because the material could contain levels of benzene that exceed the Toxicity Characteristic Leaching Procedure (TCLP) limit. The Environmental Protection Agency (EPA) waste code for this waste is D018. An attempt was made to recover the cleanup material from the eight yards of dirt which were deposited at the landfill. Approximately 100 pounds of soil (which released an odor of petroleum product), with small quantities of absorbent, was collected and removed from the landfill.

Your office was notified on September 25, 1992, that the RCRA Contingency Plan Implementation Report had been implemented as a precautionary measure. The EPA, Region VIII was notified by facsimile on September 28, 1992. The National Response Center was also notified on September 25, 1992, because the quantity of material (contaminated soil and absorbent) released (disposed of) into the environment (sanitary landfill) exceeded the reportable quantity (ten pounds of waste) for the unlisted hazardous waste characteristic of toxicity for benzene (D018).

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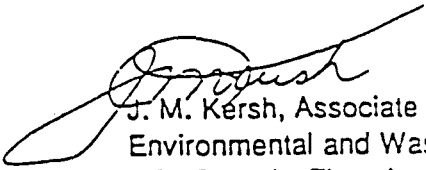
Frederick R. Dowsett

October 9, 1992

92-RF-11851

Page 2

If you have any questions regarding this subject, please contact K. A. Holstein at 966-2435 or J. M. Mynard at 966-6087.



J. M. Kerish, Associate General Manager
Environmental and Waste Management
EG&G Rocky Flats, Inc.

MLJ: kam

Enclosure:
As Stated

cc:

D. M. Maxwell - EPA, Region VIII
B. Brainard - DOE, RFO
D. Grosek - DOE, RFO
T. E. Lukow - DOE, RFO
W. E. Seyfert - DOE, RFO

RCRA CONTINGENCY PLAN
Implementation Report No. 92-021

RCRA CONTINGENCY PLAN
IMPLEMENTATION REPORT
ROCKY FLATS PLANT
EPA ID NUMBER CO7890010526

This report is made in compliance with the requirements of 6 CCR 1007-3, Parts 264.56 (j) and 265.56 (j) for a written report within 15 days of the implementation of the RCRA Contingency Plan. The requirements for this are given below and will be addressed in the order listed, excerpted from 6 CCR 1007-3, Parts 264.56 and 265.56:

"(j)...Within 15 days after the incident, he must submit a written report on the incident to the department. The report must include:

- (1) Name, address, and telephone number of the owner or operator
- (2) Name, address, and telephone number of the facility
- (3) Date, time, and type of incident (fire, explosion)
- (4) Name and quantity of material(s) involved
- (5) The extent of injuries, if any
- (6) An assessment of actual or potential hazards to human health and the environment, where this is applicable; and
- (7) Estimated quantity and disposition of recovered material resulted from the incident."

-
- (1) Name, address and telephone number of the owner of the facility:

United States Department of Energy
Rocky Flats Plant
Post Office Box 928
Golden, Colorado 80402
(303) 966-2025

Facility Contact:
Terry A. Vaeth, Manager

- (2) Name, address and telephone number of the facility:

U.S. Department of Energy
Rock Flats Plant
Post Office Box 928
Golden, Colorado 80402
(303) 966-2025

A. SUMMARY

The RCRA Contingency Plan Implementation Report was implemented on September 25, 1992, due to a release to the environment of greater than one pint/one pound of RCRA-regulated hazardous waste. The release was a result of improper disposal at the sanitary landfill located at RFP of cleanup materials (soil and absorbent) from a diesel fuel spill. Approximately one gallon of diesel fuel was spilled onto an asphalt surface while patching the Building 850 parking lot. The fuel release was cleaned up with approximately 50 pounds of soil and oil-dri which were used to absorb the liquid residue from the asphalt surface. The contaminated soil and absorbent were then inappropriately placed in the back of a subcontractor's dump truck which was en route to the sanitary landfill with approximately eight yards of dirt. The dirt and cleanup materials were subsequently unloaded at the sanitary landfill. Based on process knowledge, cleanup materials from diesel fuel spills are managed as RCRA-regulated waste because the material could contain levels of benzene that exceed the TCLP limit. The EPA waste code for this waste is D018. Approximately 100 pounds of soil (which released an odor of petroleum product), with small quantities of absorbent, was collected and removed from the landfill.

B. DESCRIPTION OF INCIDENT:

At approximately 12:00 p.m. on September 25, 1992, a container of diesel fuel located on the back of a subcontractors truck was overturned and approximately one gallon of fuel was spilled onto the asphalt. The diesel fuel was being used to clean and lubricate the asphalt paving tools used in patching the Building 850 parking lot. The subcontractor immediately shoveled dirt from the side of the road to contain and clean up the spill. At approximately 12:15 p.m. a Construction Management Coordinator called the Shift Superintendent who then notified the RFP Fire Department as a non-emergency response. At approximately 12:16 p.m. the RFP Fire Department's Hazardous Materials Team responded to the spill. At that time, Garage personnel also arrived at the scene. When the Shift Superintendent, the response team and the Area Construction Manager arrived, the spill had been covered and raked into a pile per industry standards for containing and cleaning up diesel fuel spills. The RFP Fire Department is responsible for containing releases of hazardous substances and material. Since the spill was contained, the Hazardous Materials Team did not take any action. Per RFP plant procedures which require that excess petroleum liquids are picked up with absorbent, the Garage personnel placed approximately 20 pounds of oil-dri (absorbent) on the dirt to absorb all visible liquid. The Shift Superintendent then erroneously directed Construction Management to have the subcontractor place the soil and absorbent with a truckload of dirt that was being taken to the sanitary landfill. At approximately 12:45 p.m. the truck proceeded to the landfill, where the driver dumped the load as instructed by landfill employees. This dirt was unloaded within the fenced landfill area.

Upon returning to his office from the Building 850 parking lot, the Shift Superintendent contacted the "on-call" Waste Programs (WP) representative. The WP representative was concerned with the way the incident was handled, so the representative contacted the Spill Response and Reporting Program Manager. The Program Manager made the determination that it was a hazardous waste

decision made to declare this material a RCRA-regulated hazardous waste. This determination had been previously made because the cleanup materials could contain quantities of benzene greater than the TCLP limit; therefore, the cleanup material from diesel spills has been managed as a RCRA-regulated hazardous waste with EPA waste code D018.

The Operations Manager responsible for the Building 850 parking lot and the landfill, as well as, the Associate General Manager of Environmental and Waste Management were notified of the events.

C. CORRECTIVE ACTION:

An attempt was made to locate and recover the cleanup material from the eight yards of dirt located at the landfill. Organic vapor detection equipment was used to survey the surface of the dirt but no detectable organic vapors were found. Holes were dug into the mound in an attempt to locate the cleanup material. Evidence of absorbent material (Oil-dri) was located near the top of the mound. No organic vapors were detected with the monitoring equipment; however the odor of petroleum products was smelled. Approximately 100 pounds of soil (which released an odor of petroleum product), with small quantities of absorbent, was collected and removed from the landfill. No other absorbent was discovered. It is believed that the majority of the cleanup materials was recovered; however, some of the cleanup material may still be in the landfill.

On September 28, 1992, the subcontractor was notified by Construction Management that when a spill occurs they are to make immediate notifications to the plant and wait for the plant spill response teams for the containment, collection and disposal of the spill. The pre-construction checklist for subcontractors will be modified to include a requirement that any release of a hazardous material is reported to Construction Management prior to taking any corrective actions.

Waste Programs will issue a letter of guidance to the participants (Shift Superintendent, RFP Fire Department and the Garage) of this incident reminding them of the requirements of handling petroleum product spills. These requirements had been outlined in existing plant procedures.

In the future, as part of the Waste Stream and Residue Identification and Characterization program, samples of cleanup material from similar diesel fuel spills will be collected and analyzed to provide analytical data to be used to characterize cleanup materials future diesel fuel spills. The analytical results will be forwarded to your office.

(4) NAME AND QUANTITY OF MATERIAL INVOLVED:

A mixture of approximately one gallon of diesel fuel and approximately 50 pounds of cleanup material (soil and absorbent) was released (disposed of) into the environment (sanitary landfill). EG&G Rocky Flats had declared cleanup materials from diesel fuel spills at the RFP as RCRA-regulated hazardous waste based on process knowledge that the cleanup material could fail TCLP for benzene (D018).

There were no injuries to personnel.

(6) AN ASSESSMENT OF ACTUAL OR POTENTIAL THREAT TO HUMAN HEALTH AND ENVIRONMENT:

An attempt was made to locate and recover the cleanup material (0.7 cubic feet) from the eight yards of dirt. Approximately 100 pounds of soil (which released an odor of petroleum product), with small quantities of absorbent, was collected and removed from the dirt. The impact to the environment of any material not recovered, if any, as a result of this incident (the inadvertent disposal of approximately 0.7 cubic feet of cleanup material, which is RCRA-regulated hazardous waste, mixed with 216 cubic feet volume of uncontaminated soil at the sanitary landfill), is minimal in comparison to the preexisting condition of the sanitary landfill prior to this inadvertent disposal. The amount of RCRA-regulated hazardous waste added due to this incident is incrementally insignificant when compared to the volume of hazardous constituents that have already been placed into the landfill as documented in the Historical Release Report. (See Appendix 1 for a copy of the applicable section from the Historical Release Report.)

Any material not recovered, if any, will be remediated with the landfill as part of operable unit number 7 (OU7) remediation effort. The Interagency Agreement activities will include site investigations, site characterizations and possible site remediation. The Final Phase I RFI/RF Report is to be completed by March 16, 1994. The facts of this occurrence (including the success of recovering the cleanup material) will be forwarded to Environmental Management for inclusion in the updates to the Historical Release Report.

In addition, a surface water diversion ditch and groundwater interceptor system divert uncontaminated upstream water around the landfill to prevent degradation of this water by the landfill. Any leachate from the landfill is collected to prevent any contamination from being released offsite. Groundwater monitoring wells detect and monitor the levels of contamination within, around and beneath the landfill.

The result of this assessment is that if any of the cleanup material was not recovered from the dirt mound, the release would not present a significant increase in the actual or potential threat to human health or the environment.

(8) ESTIMATE QUANTITY AND DISPOSITION OF RECOVERED MATERIAL THAT RESULTED FROM THE INCIDENT:

Approximately 50 pounds of cleanup materials (soil and absorbent) from a diesel fuel spill was disposed of with approximately 16,000 pounds of loose dirt; and subsequently deposited at the landfill. Cleanup materials from diesel fuel spills have been declared RCRA-regulated hazardous waste because the cleanup materials could contain levels of benzene that exceed the TCLP limit. An attempt was made to locate and recover the cleanup material from the eight yards of dirt. Approximately 100 pounds of soil (which released an odor of petroleum product), with small quantities of absorbent, was collected and removed from the landfill. A sample of the recovered material will be collected and analyzed to determine disposal requirements.

1.00 REFERENCE NUMBER: 111-1-
IHSS Reference Number: 114, Operable Unit: 7

Unit Name: Present Landfill

Approximate Location: N752,500; E1,083,000

Date(s) of Operation or Occurrence

August 14, 1963 - Present

Description of Operation or Occurrence

The landfill was constructed in August 1963 for the disposal of the plant's uncontaminated solid wastes.¹ Preliminary landfill designs and anticipated operating procedures are documented.² The development and use of this landfill replaced the incinerator (PAC SW-133.5) and original landfill (PAC SW-115) as the method of sanitary solid waste disposal. Although initially this landfill had a projected life of 50 years, it is undergoing closure. Discussion of the Present Landfill has been divided into Routine Operation, Regulatory Issues, Structure/Construction, and Non-Routine Occurrences.

Routine Operation

The landfill is used for the disposal of general RFP refuse collected from various locations throughout the plant. Operation of the disposal activities is directed by a landfill operator. Debris from production areas must be monitored and approved by appropriate on-site supervisors prior to placement in dumpsters. Liquids, sludge, or noncontaminated potentially hazardous solid materials must be reviewed and meet RFP specifications before disposal. Wastes include paper, rags, floor sweepings, cartons, demolition material, and miscellaneous items.³ Routine operation of the landfill included the disposal of sanitary wastewater treatment plant sludge, asbestos, and polychlorinated biphenyls (PCBs).

Sludge

Radioactively contaminated sludge from the sanitary wastewater treatment plant (Building 995) was routinely disposed of at the landfill from August 1963 through May 1970. The contamination consisted of uranium and plutonium which had entered the sanitary sewage system with laundry water.⁴ Approximately 2,200 pounds of sludge containing an estimated 8 milligrams of plutonium were buried in the landfill.⁴ This sludge also contained depleted uranium.⁵ This practice was discontinued in May 1970 when offsite shipment of sludge as low-level waste began.⁶

In 1974, it was concluded that sludges from the sanitary sewage treatment plant could be safely disposed of onsite in either the landfill or as fertilizer when it was determined that the sludges were not contaminated with radionuclides.⁷ In 1980, sludge from the reverse osmosis sludge beds was sampled for determination of suitability for landfill disposal.^{8,9} It is not known if Reverse Osmosis Plant sludge from the reverse osmosis plant drying beds was placed in the landfill or not. Also in 1980, during the cleaning of Building 373 cooling tower, disposition of the sludge became a problem: the sludge was to be transported to the landfill.¹⁰

Water from backflushing the raw-water treatment plant filters contains solids removed during treatment. Settling tanks were provided for this water, which was pumped back to the treatment plant and the sludge then pumped to drying beds. Dried sludge is trucked to the landfill.¹¹

In 1985, asbestos generated onsite was disposed of in a designated area which consisted of a 10-foot deep pit.¹² Routine disposal practice consisted of placing asbestos-containing material in heavy plastic bags. These bags were disposed of in a designated pit and covered with clean dirt when the pit became full.¹² At the time, warning signs were displayed at the entrance to the disposal area and at 100 feet distance around the asbestos disposal pit. This operation was evaluated in 1985 and considered to be in compliance with the appropriate Federal regulations.¹²

A DOE environmental survey of RFP in September 1987 identified some deficiencies in asbestos disposal operations. Actions were initiated to upgrade these disposal operations.¹³ At the time, the disposal practice was not in compliance because the pit was not covered with soil after each working day.¹⁴ By December 1988, asbestos was disposed of in several pits in specified areas near the center of the landfill.¹⁵ The locations of these areas were estimated by landfill operators and later marked with asbestos warning signs to comply with appropriate regulations. Records from June 1989 through April 1990 detail daily activities of asbestos disposal at the landfill. The records indicate some non-routine events associated with asbestos disposal such as ripped bags and insufficient daily cover.¹⁴ Actions were taken to correct these problems.

PCBs

Small quantities of PCBs are contained in materials that were routinely disposed of in the landfill. In 1976, it was determined that used fluorescent light ballasts could no longer be sent to the landfill because they contained small quantities of PCBs.¹⁶ A 1985 reference identifies a designated area of the landfill as the disposal site of PCBs.¹⁷ Supporting documentation for this has not been found; however, a specified cargo container located in the currently inactive hazardous waste storage area (PAC NW-203), east of the landfill, was used for PCB storage prior to offsite disposal. This area is located in the western portion of the landfill.

Regulatory Issues

In October 1972, RFP policies on waste disposal at the landfill were reviewed and judged to be in accordance with applicable regulations.¹ Regulatory guidelines were issued in 1973 to control burial of solid and liquid wastes in the landfill prompting Health Physics to initiate a program of radioactive monitoring and scanning of the wastes.¹

In 1977, a Solid Waste Management Plan was prepared in compliance with 40 CFR 241. This plan included both radiation monitoring and groundwater monitoring programs. Radiation monitoring included measurements at the point of waste origination and at the landfill. The groundwater monitoring program consisted of sampling the wells at the landfill every five months. The water samples were analyzed for plutonium, gross alpha, conductivity, pH, and nitrate.¹⁸

The Colorado Department of Health inspected the landfill in 1978 and 1979 at which times the landfill was reported to comply with state and federal minimum standards.^{19,20} In 1986 and 1987, studies identified 241 nonhazardous solid waste streams and 97 hazardous waste streams disposed in the landfill. As of November 1986, disposal of the hazardous waste streams in the landfill was discontinued.¹ Because hazardous waste was disposed of at the landfill, it was designated as an interim status Resource Conservation and Recovery Act (RCRA) regulated unit and was included in the 1986 Part B Permit Application as a facility to be closed under interim status. Only non-hazardous waste disposal operations were to continue from that time forward.

The landfill was sited in a natural drainage tributary to North Walnut Creek. A portion of the drainage was filled with soil from an on-site borrow area to a depth of up to five feet for the construction of a surface on which to place the first lift of waste.¹

In 1974, prompted by the identification of elevated tritium activity downgradient of the landfill, significant changes were made to the landfill design. These included the construction of a surface water diversion ditch, a groundwater interceptor system, a leachate collection system, and two ponds.¹

The surface water interceptor ditch was installed to intercept any surface water flowing toward the landfill and direct the collected water away from the landfill. The cross-sectional geometry of the ditch is a gravel-filled trapezoid approximately three feet deep.²

Among the 1974 improvements was a groundwater intercept system constructed to intercept and divert groundwater flow around the landfill. The design of the intercept system enabled groundwater to be discharged to the western pond (also called Pond 1 in some documents at that time), the eastern pond (also called Pond 2 in some documents at that time), or to surface drainage downslope of the eastern pond. The eastern pond was improved to meet engineering standards as a dam shortly after it was constructed.² The new East Landfill Pond had an engineered embankment which included a low-permeability clay core keyed into bedrock.²

Until January 1974, water collected in the ponds was pumped to the Solar Evaporation Ponds (PAC 000-101). After January 1974, it was diverted to a manhole northwest of Building 990 and discharged to Pond B-2 (PAC NE-142.6). By September 1975, spraying of the water onto spray fields adjacent to the landfill was initiated³ (PAC NE-167.2 and PAC NE-167.3). Spraying was performed after the pond water was analyzed and indicated to meet established RFP guidelines. Authorization of spraying was obtained from the Manager of Environmental Analysis and Control's office. The weekly pond water samples were analyzed for gross alpha, gross beta, gamma emitting isotopes, and tritium activity.³ Areas where spray evaporation operations historically occurred are discussed in detail in PAC NE-167.1, PAC NE-167.2, and PAC NE-167.3. Currently, water from the East Landfill Pond is sprayed along the banks of the pond in areas considered part of PAC NW-114.⁴

The western and eastern ponds were situated downgradient from the landfill. The western pond was 500 feet east of the advancing face of the landfill and the eastern pond was 1,000 feet east of the western pond at the time of construction.² A leachate-collection system was constructed for landfill expansion and waste was subsequently placed over it.¹ Leachate generated in the landfill discharged into the western pond until May 1981 when the pond was buried beneath the advancing face of the landfill.² Additional detail about the surface water, groundwater, and leachate collection systems can be found in the RCRA Facility Investigation/Remedial Investigation Workplan and the closure plans.^{1,2} Design specifications for the construction activities of 1974 are available.²

In 1981 and 1982, in response to the need for more landfill space, two slurry walls were constructed to prevent groundwater migration into an expansion of the landfill to the east. The slurry walls are tied into the north and south arms of the groundwater diversion system. The walls are constructed of soil and bentonite and intersect the previously existing drainpipe. Design drawings of the slurry wall are available.³

Numerous "hot items" have been identified in the landfill by routine FIDLER surveys performed during the placement of each lift of waste. Records indicate these radioactive materials were removed, returned to the building of origin, and disposed of properly. Routine FIDLER surveys were initiated in 1973 after the tritium source was discovered in the landfill.¹ References specifically describing individual events pertaining to the discovery of radioactive materials are identified in the reference list.²

Several non-routine incidents of non-radioactive waste disposed of in the landfill have been documented. These incidents include the disposal of a mercaptan (odor additive to natural gas) tank²⁴ and the disposal and puncturing of a bag containing tear gas powder.²⁵ In 1978, an information sheet was proposed which was to cover the nonroutine disposal of waste to the landfill.²⁶ Approval was given by the Environmental Analysis and Control Group for the disposal of nonroutine waste into the landfill. For example, approval was given for the disposal of one drum of solidified polystyrene resin used in fiberglassing.²⁷

On January 29, 1971, approximately 700 gallons of No. 6 fuel oil was spilled in the 600 area (PAC 600-152). Clean-up activities resulted in the removal of the oil from various locations at the plant which was subsequently sent to the landfill for disposal. Consideration had been given to the potential pollution problems associated with this disposal method prior to burial in the landfill.²⁸

Fill dirt from north and south of the landfill is routinely used for cover. An incident occurred in August 1987 in which stockpiled cover material taken from the area east of the landfill was identified at that time as potentially being from Trenches A, B, and C (PAC NE-166.1, PAC NE-166.2, and PAC NE-166.3). These trenches are designated as IHSSs because they reportedly contained sanitary sewage sludge contaminated with trace amounts of radionuclides. In response to disturbing the IHSSs, the area was roped off and the soil was sampled. All IHSSs within the landfill area were identified in the field with signs and rope.^{29,31} No radioactive contamination was identified through the soil analyses. The location of the trenches was re-evaluated in response to this incident, and the mapped locations were moved to the south to correspond with surface soil features that might correspond to disposal trenches (see PAC NE-166.1, PAC NE-166.2, and PAC NE-166.3 for additional detail).

Incidental activities have occurred at the landfill or landfill area which are poorly documented but which should be researched further to determine their significance. One such event was the initiation of burning chromium-contaminated wood near the landfill in May 1975.³² The source of the wood was from the demolition of the Building 444 cooling tower. This material was size-reduced by supervised controlled burning. The residuum from the chromium-contaminated wood was suspected of also being contaminated with uranium and was shipped offsite as low-level waste.³³

Various chemicals have been disposed of at the landfill. Unwanted chemicals or chemicals of unknown composition have been disposed of by dumping them on the ground if they were volatile and considered not to harm the groundwater.³⁴ Other chemicals were ultimately disposed of in the landfill after reaction with neutralizing agents through various processes.³⁵ Aluminum oxide was disposed of after electrical activation of 10 pounds of thermite powder at the landfill in March 1977.³⁶ A small fire occurred at the landfill caused by hot ashes from an incinerator in December 1980.³⁷ These events were considered at the time to not pose a threat to the environment.

Physical/Chemical Description of the Constituents Released

After the discovery of tritium in the landfill drainage in 1973, actions were taken to sample and analyze surface water and groundwater collected from the wells, leachate collection system, groundwater intercept system, and surface water impoundments.³⁸ Tritium activity concentrations in surface water were greatest

downtrend of the tritium, with the highest concentration of 91,500 picocuries per liter (pCi/L) in September 1973.²¹ From the monitoring wells placed in the landfill to attempt to pinpoint the source, the greatest concentration of tritium activity was found to be 301,509 pCi/L.²² Tritium activity concentrations for the western pond are available from 1974 through 1980.²³ It was found that the tritium activity concentrations within the landfill decreased to the east. The intercepted groundwater, when analyzed in 1974, was found to have tritium activity concentrations in the range of background values.²⁴ The surface water collected in the western pond was monitored from the pond's construction until shortly before the pond's removal (burial) in 1981. The tritium activity concentration measured steadily decreased with time and were within measured background values when the pond was removed.²⁵ Monitoring of tritium activity levels in the surface waters and groundwater in the landfill wells drilled in 1974 ceased in 1981.²⁶ It was concluded that the tritium source was effectively separated from the environment and was causing no environmental degradation beyond the immediate area of the tritium source.²⁷ By 1987, no migration of radioactivity had been identified downgradient or laterally from the landfill.²⁸

From September 1973 through January 1974, the results of surface water and groundwater monitoring indicated large variations in strontium concentrations. Water-quality data are available from 1973 through 1984 for strontium in landfill ponds. The monitoring for strontium was prompted by erroneous lab results reporting an abnormally high strontium value in samples from September 1973. When re-analyzed, it was determined that the actual strontium concentration was above background but half the value initially identified.²⁹

Hazardous waste that routinely went to the landfill included four categories: 1) containers partially filled with paint, solvents, and foam polymers; 2) wipes and rags contaminated with listed hazardous wastes; 3) filters, typically including silicone oil filters, paint filters, and other miscellaneous filters that may have contained hazardous constituents; and 4) metal cuttings and shavings, including mineral and asbestos dust and metal chips coated with hydraulic oil and organic solvents. These were summarized after a 1986 survey of RFP waste streams.³⁰ Approximately 90 hazardous waste streams were identified in the 1986 survey. This disposal of wastes with hazardous constituents ceased in the fall of 1986.³¹

Responses to Operation or Occurrence

In April and May 1973, significant increases in the concentration of tritium activity were detected in water leaving RFP. An extensive search was initiated to determine the source of the tritium release. In the process of identifying the source (later determined not to be related to the landfill), low radioactivity concentrations of tritium activity were detected in the landfill leachate.³²

In response, fifty-two monitoring wells were drilled into the landfill itself to identify the source of the elevated tritium activity concentrations. Initially, twenty-one test wells were drilled about 25 feet deep and cased with plastic pipe. The pattern of these was a grid of 100-foot spacing down the centerline of the landfill. Samples taken from the wells contained background amounts of tritium activity except for the area of the landfill used in 1970. These tritium activity values were up to 36,000 pCi/L. Additional monitoring wells were drilled in the center area until the source area was identified. It was concluded that the source area, in the area of the landfill active in 1970, would remain in place and the landfill design would be upgraded to prevent the contamination of surface water and groundwater. Contaminated leachate was retained in the ponds.³³ These landfill improvements are identified in the Structure/Construction section above. The 52 monitoring wells (also called environmental test holes) were apparently used only for the period of time immediately after the tritium incident. As landfill operations continued, the wells were covered over with waste or otherwise destroyed. Some of the wells installed in inactive portions of the landfill still remain.

in response to the 1973 uranium incident. Early FIDLER surveys were initiated to detect any radioactive substances in the waste.

When RCRA regulations were implemented at RFP, the landfill was designated as a regulated unit because hazardous waste had been disposed of in it. Because it was a land disposal unit, groundwater monitoring was required. Four wells were installed in the immediate vicinity in 1986; 16 wells in 1987, and 13 wells in 1989 for a total of 33 monitoring wells to monitor the groundwater near and in the landfill. These wells monitored water in both the alluvium and bedrock.¹ Results of groundwater quality analyses are presented in the Annual RCRA Groundwater Monitoring Reports for Regulated Units produced each year at RFP.

In 1978, a survey of some landfill test holes indicated the presence of methane gas.³⁹ In response, plans were developed to conduct initial identification and quantification of landfill gases. Following the initial work, a routine monitoring program was to be developed if warranted.⁴⁰ Preliminary sampling for methane was conducted at two of the test holes. The methane concentrations ranged from 37% to 52% by volume at depths from 2 to 15 feet below the surface. These values were considered typical for landfills.⁴¹ A follow-up survey was conducted in the spring of 1979 with the cooperation of the Colorado Department of Health.⁴²

A real time soil-gas survey was conducted at the landfill on September 1 and 2, 1987. Twenty points in the landfill were measured for methane and hydrogen sulfide. Methane was detected in two of the twenty sites at values of 0.2 parts per million (ppm) and 0.4 ppm; hydrogen sulfide was not detected.¹ The utility of the data was questioned because the sampling methodology was not documented and it is suspected that the sampling was not done at the landfill.¹

Fate of Constituents Released to Environment

The surface water diversion ditch and the groundwater interceptor system divert uncontaminated background water around the landfill to prevent degradation of that water by the landfill. Collected leachate is prevented from being released offsite. The groundwater monitoring wells detect and monitor contaminants in the groundwater within, beneath, and around the landfill. The landfill pond is not a NPDES discharge point.

This IHSS is being studied in accordance with the IAG schedule for OU7. The IAG activities will include site investigations, site characterizations, and possible site remediation. The Final Phase I RFI/RI Report is to be completed by March 16, 1994.

Comments

It is unknown whether the sludge which was placed in the landfill until 1970 was buried in specified trenches within the landfill or placed with other waste as part of routine operations.

All references identified in this study indicated the radioactive materials found were removed and directed toward proper disposal. However, the FIDLER surveys began in 1973¹ and any radioactive materials which may have been disposed of in the landfill prior to that time would not have been detected or removed.

Much more detail about the landfill design and operation is available in the references cited and are summarized here. Information concerning groundwater quality and surface water quality are also available in the references cited.

The boundary for this IHSS is modified from the IAG map to include the East Branch Pond and reflects the boundaries presented in the Phase I RFI/RJ Workplan.¹

References

¹ U.S. DOE, Draft, Final Phase I Resource Conservation and Recovery Act Facility Investigation/ Remedial Investigation Work Plan: Rocky Flats Plant Present Landfill IHSS 114 and Inactive Hazardous Waste Storage Area IHSS 203 (Operable Unit No. 7), August, 1991.

² 1500454

³ 1500793

⁴ 1700398

⁵ 1501097

⁶ 1500564

⁷ 1600647

⁸ 1502756

⁹ 1501192

¹⁰ 1501218

¹¹ 1503439

¹² 1502790

¹³ 1502791

¹⁴ 1600434

¹⁵ 1501118

¹⁶ 1700032

¹⁷ 1600826

¹⁸ 1503438

¹⁹ 1502755

²⁰ 1500804

²¹ 1500764

²² 1503440

²³ 1502768

²⁴ 1502703

²⁵ References that specify radioactive material removed from the landfill:

1500928

1500956

1501094

1501119

1501127

1501132

1501214

1501273

1600209

1600496

1700401

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1700407

1700414

1700415

²⁶ 1500504

²⁷ 1600210

²⁸ 1501268

1501787
1600818
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Personal Communication. D.D. Hombacher, Retired RFP Employee, November 18, 1991.
1500473
1500511
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Other References of Interest:

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ROCKY FLATS PLANT, P.O. BOX 464, GOLDEN, COLORADO 80402-0464 • (303) 966-7000

92-RF-13435

This correspondence continues our process, as directed by the Department of Energy, Rocky Flats Office, that EG&G Rocky Flats, Inc. will correspond directly to the Colorado Department of Health concerning Contingency Plan Implementation Reports.

DIST.	LTRIENC
ERUAMIN, A.	
E... H.S.	
... U.B.	
... C.D.	X
ANNIVAL, G.J.	
HURCH, A.A.	X
OPF, H.D.	
AVIS, J.G.	
DRICH, P.W.	X
ERRERA, D.W.	
FROST, L.A.	X
GANNI, B.J.	
JARMAN, L.R.	
REALY, T.J.	
FEDAH, T. G.	X
TILBIG, J.G.	
DEREK, E.H.	X
NIRBY, W.A.	
QUESTER, A.W.	
WANN, H.P.	
MARTINEZ, A.	X
KARX, G.E.	
MCDONALD, M.M.	
MEXENNA, F.G.	
MONTROSE, J.K.	
MORGAN, R.V.	X
PIZZUTO, V.M.	
POTTER, G.L.	X
RILEY, J.H.	
RISING, T. L.	X
SANDLIN, N.R.	
SCHUBERT, A.L.	X
SCHAFER, J. M.	X
SETLOCK, G. H.	X
SREPLER, R.I.	
STEWART, D.L.	
ST... AN, M.T.	
... ON, E.H.	
W... SON, R.B.	
WILSON, J.M.	
ZANE, J.O.	X
ZARRET, J.	X
Johnson, M.L.	X
Jackson, D.B.	X
McGee, J.B.	X
CORRECTOR	X X

CLASSIFICATION:

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UNCLASSIFIED	X	
CONFIDENTIAL		
SECRET		

AUTHORIZED CLASSIFIER

SIGNATURE

Per phone call to
S. Ballarín on
JAE 11/12/92

IN REPLY TO RFP CC NO:

ACTION ITEM STATUS

☐ OPEN ☐ CLOSED
☐ PARTIAL

2 PROOFS

ORIG & TYPIST INITIALS
mka :KAM

Frederick R. Dowsett
November 18, 1992
92-RF-13435
Page 2

If you have any questions regarding this subject, please contact D. R. Jackson at 966-4749.



T. G. Hedahl, Associate General Manager
Environmental and Waste Management
EG&G Rocky Flats, Inc.

MLJ:kam

cc:

D. M. Maxwell - EPA, Region VIII
B. Brainard - DOE, RFO
D. Grosek - DOE, RFO
T. E. Lukow - DOE, RFO
W. E. Seyfert - DOE, RFO

14398

EG&G ROCKY FLATS

EG&G ROCKY FLATS, INC.

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December 15, 1992

92-RF-14398

Colorado Department of Health
Hazardous Materials and Waste Management Division
HMWMD-HWC-B2/Frederick R. Dowsett, Phd.
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Denver, Colorado 80022-1530

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) CONTINGENCY PLAN
IMPLEMENTATION REPORT NO. 92-023 - TGH-085-92

Enclosed is RCRA Contingency Plan Implementation Report No. 92-023, which documents the status and information concerning the release of approximately 490 gallons of interceptor trench water. Surface water runoff and potentially contaminated groundwater are collected in the Interceptor Trench Pump House (ITPH) system prior to being pumped from the interceptor central sump to 207B North Solar Evaporation Pond. The release originated from a separation of a pipe coupling in the 3" transfer line on the east slope of the 207B North Evaporation Pond berm and flowed onto the surrounding soil.

The release occurred at 1:45 a.m. on Monday, November 30, 1992. The interceptor trench water is managed as RCRA-regulated hazardous waste because the groundwater may contain RCRA-regulated hazardous waste due to the possibility of releases from the liner degradation of the Solar Evaporation Ponds. Based on the results of previous analytical testing, listed hazardous waste constituents have been detected in the interceptor trench water. The material in the Solar Evaporation Ponds has been characterized as RCRA-regulated waste with the following EPA waste codes: D006, F001, F002, F003, F005, F006, F007, and F009. A sample of the interceptor trench water was taken on November 30, 1992, and is currently being analyzed to determine the levels of contaminants in the interceptor trench water at the time of the incident. Preliminary results indicate that the concentration of Contract Lab Protocol (CLP) volatiles is comparable to analytical results of samples taken previously of this stream. No results are available for Toxicity Characteristic Leaching Procedure (TCLP) metals, due to problems with the laboratory equipment. Upon validation of the analytical results, the data will be forwarded to your office.

Your office was notified on November 30, 1992, that the RCRA Contingency Plan had been implemented. The Environmental Protection Agency, Region VIII was notified by facsimile on December 1, 1992.

CONTROL	GLTR. NO
14398	
EG&G ROCKY FLATS	
EG&G ROCKY FLATS, INC.	
ROCKY FLATS PLANT, P.O. BOX 464, GOLDEN, COLORADO 80402-0464 • (303) 966-7000	
December 15, 1992	
Colorado Department of Health	
Hazardous Materials and Waste Management Division	
HMWMD-HWC-B2/Frederick R. Dowsett, Phd.	
4300 Cherry Creek Drive South	
Denver, Colorado 80022-1530	
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IMPLEMENTATION REPORT NO. 92-023 - TGH-085-92	
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Frederick R. Dowsett
December 15, 1992
92-RF-14398
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If you have any questions regarding this subject, please contact the Waste Solidification Operations Manager, J. D. Roberts at 966-3324.


T. G. Hedahl, Associate General Manager
Environmental and Waste Management
EG&G Rocky Flats, Inc.

JDR:kam

cc:

D. M. Maxwell - EPA, Region VIII
B. Brainard - DOE, RFO
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T. E. Lukow - DOE, RFO
W. E. Seyfert - DOE, RFO

INTEROFFICE CORRESPONDENCE

DATE: October 16, 1992

TO: Distribution

FROM: A. L. Schubert, Waste Programs, Bldg. T130C, X5251

SUBJECT: HAZARDOUS SUBSTANCES RELEASE REPORT - 1992 SECOND QUARTER REPORT -
ALS-408-92

Please find attached the Hazardous Substances Release Report for the time period of July, 1991, through June, 1992. The report is divided into four sections: 1) Offsite Regulatory Notifications, 2) Root Cause Analysis, 3) Release Graphics and 4) Special Topics. Please route this to all personnel with responsibility for release investigations and/or conducting critique meetings.

For the purpose of this report only, the term hazardous substance includes any element, compound, mixture, solution or substance that may endanger human health or the environment including hazardous substances (which include radionuclides) as defined by 40 CFR Part 302, extremely hazardous substances as defined by 40 CFR Part 355, hazardous materials as defined by 49 CFR Part 173, hazardous waste as defined by 40 CFR Part 265, oil and petroleum products (including antifreeze), and nonhazardous substances (e.g. water) contaminated by hazardous constituents.

A release includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging or dumping of a hazardous substance **inside any building/containment or to the environment**. Release also includes the abandonment or discarding of barrels, containers, and other closed receptacles of any hazardous substance. The discovery of accumulated liquids within secondary containment for RCRA-regulated systems, that appear to be waste-like in nature or have been analytically tested and verified to be a solid or hazardous waste, have also been included in this report.

An **Internally reportable release** includes all solid and liquid releases of hazardous substances equal to or greater than one pound (one pint for aqueous liquids) and all gaseous releases that occur inside or outside buildings or containments. These releases must be reported to the Shift Superintendent and the Occurrence Notification Center (ONC). In addition, all reported mercury spills (including releases less than one pound, approximately 2 1/2 teaspoons) are included in the database. Waste Regulatory Programs is then responsible for evaluating if additional reporting is required to offsite regulatory agencies.

A release reportable to the Department of Energy, Rocky Flats Office (DOE, RFO) is any release that has been categorized and reported to DOE, RFO as an Off-Normal, Unusual, or Emergency occurrence as defined by DOE Order 5000.3A.

Releases from **privately owned vehicles (POVs)** have been specifically identified in the charts. Releases that occur inside of a building are labeled as Bldg-XXX (reference the releases by location charts). All other spills (including releases identified Bldg-XXX Vicinity) occurred outside a building.

Offsite Regulatory Notifications

This section of the report documents the occurrences for which the RCRA Contingency Plan was implemented, an Environmental Release Report was generated or notifications were made to the EPA National Response Center (NRC), State Emergency Response Commission (SERC) and/or Local Emergency Planning Committees (LEPC). Our number one goal is to reduce these occurrences and to minimize the threat to human health and the environment.

When the RCRA Contingency Plan is implemented, a report is filed with DOE, the Colorado Department of Health (CDH), and the Environmental Protection Agency (EPA), Region VIII. The plantsite is required to implement the plan whenever there is a fire, explosion or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

Specifically at the Rocky Flats Plant (RFP), the RCRA Contingency Plan is implemented whenever there is a release of regulated hazardous waste greater than one pound (or one pint of aqueous liquids) if the release is outside containment. For releases inside containment, the plan is implemented if more than the CERCLA equivalent quantity of regulated waste is released. The plan is also implemented if a release (of any size) from a RCRA-regulated tank system is not cleaned up within 24 hours. In addition, The RCRA Contingency Plan is implemented if there is a fire, explosion or similar event involving a hazardous waste release or an active hazardous waste management unit.

As of July 19, 1991, releases of petroleum products have been evaluated to determine if the resultant waste contained any hazardous waste constituents. If no written documentation is available to demonstrate that the specific petroleum product does not contain any hazardous waste constituents, the material resulting from clean up of a release must be managed as RCRA-regulated hazardous waste.

As of September 1, 1991, any release of ethylene glycol (including antifreeze) that equals or exceeds the reportable quantity of one pound (two pounds of a mixture of 50% antifreeze and 50% water) must be reported to the NRC. As of June 4, 1992, ethylene glycol spills that are reported to the NRC are not reportable to DOE, RFO (through the occurrence reporting process) unless 100 pounds (approximately 24 gallons of a mixture of 50% antifreeze and 50% water) or more has been released to the environment.

Cause Analysis

This section of the report is designed to assist the plantsite in reducing the number of spills/releases by improving the control systems. These control systems are divided into Personnel, Procedures and Equipment. **Not Investigated** refers to spills/releases for which insufficient information is available or manpower is not available. All spills/releases equal to or exceeding one pound liquid or solid are evaluated as to the primary failure mode. All confirmed gas releases are investigated on a case-by-case basis. A new category has been included in the cause analysis to address releases from privately owned vehicles. Typically, these occurrences were not investigated due to the nature of the occurrence. A formal root cause determination is performed by the responsible Operations Manager for all releases that were reported to DOE, RFO through the Occurrence Reporting Process.

WRP requests that Operations Managers continue to investigate the cause of every reportable release and to initiate corrective action which will preclude any recurrence. Based on the cause analysis documented in this report, 27 incidents were caused by a lack of attention and 19 incidents were caused by maintenance deficiency.

Release Graphics

This section of the report is a two-part package which displays data in three different ways for releases occurring on the plantsite. Both parts of the package sort the data according to location, substance and month. The difference in the two packages is that the first includes all of the releases of hazardous substances which were reported for the entire plantsite for a 12-month period. The second package limits the data to those releases occurring outside buildings or containment structures for the same time period.

Outside releases are immediate threats to human health and the environment and should, therefore, be targeted for serious corrective measures. The data includes releases greater than or equal to one pound (or one pint for aqueous liquids). Additionally, all known releases of mercury have been included in the database. The release graphics have been revised to specifically identify the releases from POVs.

Special Topics

This section of the report includes information clarifying release reporting requirements. For example, a buildup of crystalline material on flange connections or fittings is considered a release and may be reportable to offsite regulatory agencies if the release is associated with the RCRA interim status or 90-day storage tank system. The release must be reported to the Shift Superintendent if one pound (or one pint aqueous liquid) or more is released or a release from a RCRA-regulated waste tank system has not been cleaned up within 24 hours. All releases from RCRA interim status or 90-day storage tank systems must be cleaned up within 24 hours.

In addition, a release of liquids into plastic wrap covering ancillary equipment (e.g., piping, valves, flanges) is considered a reportable release from the primary containment if: 1) one pound (or one pint of aqueous liquids) or greater of RCRA-regulated waste is released into the plastic; or 2) if the liquid from a RCRA-regulated tank is not cleaned up within 24 hours.

Additionally, any discovery of accumulated liquids within a secondary containment for a RCRA-regulated system must be cleaned up within 24 hours. If it is not cleaned up within 24 hours, a determination must be made as to whether the liquid is a RCRA-regulated waste. If this determination cannot be made, the RCRA Contingency Plan may have to be implemented. If the accumulated liquids are known to be non-hazardous and the material has not been cleaned up within 96 hours, then this noncompliance must be reported to DOE, RFO through the Occurrence Reporting process.

A release from primary containment (e.g. piping, tanks, valves, pumps, etc.) of one pound (one pint aqueous liquids) or more of hazardous substance which is contained within a glovebox should be reported to the Shift Superintendent unless the release is associated with in-process accumulation of material.

However, a release of RCRA-regulated hazardous waste from primary containment that is fully contained within a glovebox does not require implementation of the RCRA Contingency Plan because the release did not impact health or the environment. A release of hazardous waste that is not fully contained within the glovebox may require implementation of the RCRA Contingency Plan.

A release within a glovebox that results in a hazardous waste could result in a noncompliance with RCRA regulations concerning storage of hazardous waste in approved accumulation areas. A case-by-case assessment of the release must be completed by Waste Technical Support (previously known as Waste Area Engineering) to evaluate if the release resulted in noncompliant storage of a hazardous waste or if the release is associated with in-process accumulation of material.

If you have any questions or would like more information, please contact M. L. Johnson at extension 5033 or digital pager 1028, or B. B. Haynes at extension 7754. If, in the future, you do not wish to receive a copy of this report, please notify either person.

MLJ:kam

Attachment:
As Stated

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HAZARDOUS SUBSTANCE RELEASES

OFFSITE REGULATORY NOTIFICATIONS

RCRA Contingency Plan Implementation Reports - July 1991 through June 1992

<u>REPORT NUMBER</u>	<u>DATE OF RELEASE</u>	<u>AMOUNT RELEASED</u>	<u>MATERIAL RELEASED and COMMENTS</u>
91-004	7-9-91	3 quarts	<p>MATERIAL RELEASED: spent battery acid that might contain toxic levels of cadmium (D006)</p> <p>A release from an overturned waste Ni-Cad battery outside of Building 119.</p>
91-005	7-17-91	1 quart	<p>MATERIAL RELEASED: diesel fuel (1)</p> <p>A release onto soil from an above ground storage tank located near Cooling Tower No. 109.</p>
91-006	8-5-91	1 quart	<p>MATERIAL RELEASED: gasoline (1)</p> <p>A release onto asphalt surface from a portable lighting generator in the parking area east of Building 920 Guard Post.</p>
91-007	7-28-91	2 gallons	<p>MATERIAL RELEASED: waste Kathene solution containing toxic levels of chrome (D007)</p> <p>A release from a Kathabar dehumidifier system inside Building 707, employee knocked over bucket.</p>
91-008	8-2-91	100 gallons	<p>MATERIAL RELEASED: waste Kathene solution containing toxic levels of chrome (D007)</p> <p>A release from a Kathabar dehumidifier system due to overflowing recirculation tanks inside Building 707 as a result of a malfunction during testing.</p>
91-009	8-9-91	50 gallons	<p>MATERIAL RELEASED: waste Kathene solution containing toxic levels of chrome (D007)</p> <p>A release from a Kathabar dehumidifier system due to overflowing the recirculation tanks inside Building 707 as a result of operator error.</p>

(1) As of October 31, 1991, the RCRA Contingency Plan was modified to limit reporting of release of hazardous waste. Prior to this change, release of hazardous substances that resulted in a hazardous waste required implementation of the Plan.

010	8-14-91	2 gallons	<p>MATERIAL RELEASED: waste Kathene solution containing toxic levels of chrome (D007)</p> <p>A release when solution overflowed a drain inside Building 707 during transfer operations to empty tanks.</p>
91-011	8-14-91	2 quarts	<p>MATERIAL RELEASED: antifreeze (1)</p> <p>A release onto asphalt surface from a private vehicle in the parking lot south of Building 130D.</p>
91-012	8-23-91	1-1/2 pint	<p>MATERIAL RELEASED: antifreeze (1)</p> <p>A release onto asphalt surface from a private vehicle in the parking lot north of Building 771.</p>
91-013	8-23-91	3 quart	<p>MATERIAL RELEASED: antifreeze (1)</p> <p>A release onto asphalt surface from a private vehicle in the parking lot east of Building 111.</p>
91-014	8-26-91	2 quarts	<p>MATERIAL RELEASED: hydraulic oil (1)</p> <p>A release from a sub-contractor vehicle onto the soil south of Building 250.</p>
91-015	8-26-91	1 quart	<p>MATERIAL RELEASED: motor oil (1)</p> <p>A release in the parking lot and soil north of Guard Post, source of release is unknown.</p>
91-016	8-28-91	750 gallons	<p>MATERIAL RELEASED: aqueous waste (containing waste Kathene solution with toxic levels of chromium)(D007)</p> <p>A release from overfilling a RCRA-regulated process waste tank (#651) inside Building 731 due to failure of tank high level</p>
91-017	8-29-91	1 quart	<p>MATERIAL RELEASED: compressor oil (1)</p> <p>A release onto asphalt surface west of Building 865 from an air compressor during routine oil change.</p>

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91-018	8-30-91	2 gallons	<p>MATERIAL RELEASED: gasoline (1)</p> <p>A release from a contractor's gasoline supply vehicle onto asphalt surface north of Building 331.</p>
91-019	9-4-91	3 gallons	<p>MATERIAL RELEASED: transmission fluid (1)</p> <p>A release from a contractor vehicle onto asphalt surface east of Building 131.</p>
91-020	9-12-91	1 gallon	<p>MATERIAL RELEASED: hydraulic oil (1)</p> <p>A release from a contractor backhoe to the soil west of Building 115.</p>
91-021	9-17-91	1 gallon	<p>MATERIAL RELEASED: hydraulic oil (1)</p> <p>A release from a trash truck onto asphalt surface south of Building 125.</p>
91-022	9-24-91	10 gallons	<p>MATERIAL RELEASED: hydraulic oil (1)</p> <p>A release from a trash truck to the soil and asphalt during transit from an area southwest of the 904 Pad to the parking lot at Building 331.</p>
91-023	9-27-91	7 quart	<p>MATERIAL RELEASED: antifreeze (1)</p> <p>A release from a private vehicle onto asphalt surface in the Building 334 parking lot.</p>
91-024	9-30-91	1/2 gallon	<p>MATERIAL RELEASED: gasoline (1)</p> <p>A release from a private vehicle onto asphalt surface in the north parking lot of the 130 trailer complex.</p>
91-025	10-10-91	1 gallon	<p>MATERIAL RELEASED: antifreeze (1)</p> <p>A release from a private vehicle onto asphalt surface at the north entrance to Portal 1.</p>

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91-026	10-9-91	5 gallons	<p>MATERIAL RELEASED: decontamination water (containing trace levels of solvents)(F002)</p> <p>A release from a tanker onto asphalt road surfaces during transport from the decontamination pad to Building 231 tanks.</p>
91-027	10-11-91	1-1/2gallon	<p>MATERIAL RELEASED: antifreeze (1)</p> <p>A release onto asphalt surface from a private vehicle in the parking lot east of Building 886.</p>
91-028	10-17-91	1/2 gallon	<p>MATERIAL RELEASED: gasoline (1)</p> <p>A release from a private vehicle onto the soil in the ditch east of the 555 power station.</p>
91-029	10-21-91	1-1/2 gallon	<p>MATERIAL RELEASED: motor oil (1)</p> <p>A release from an air compressor onto the pavement north of Building 440 due to over pressurization of the oil reservoir, forcing oil out through dipstick tube which had not been closed properly.</p>
91-030	10-22-91	N/A	<p>MATERIAL RELEASED: N/A</p> <p>Lack of adequate secondary containment of the laundry waste tank (T-4) in Building 732.</p>
91-031	10-25-91	1/2 gallon	<p>MATERIAL RELEASED: antifreeze (1)</p> <p>A release from street sweeper to the pavement north of Building 331.</p>
91-032	10-29-91	1 quart	<p>MATERIAL RELEASED: motor oil (1)</p> <p>A release from a private vehicle onto asphalt surface on the parking lot for Building 441.</p>
91-033	10-29-91	3 gallons	<p>MATERIAL RELEASED: automatic transmission oil (1)</p> <p>A release from an air compressor onto the ground northwest of Building 443.</p>

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91-034	10-21-91	one cup	<p>MATERIAL RELEASED: salts (caustic) (D002)</p> <p>A release was not cleaned up within 24 hours from a RCRA-regulated tank (T-2) in Building 883.</p>
91-035	12-16-91	40 gallons	<p>MATERIAL RELEASED: TRIM™SOL lubricant mixed with waste oil (generator declared hazardous waste)</p> <p>A release from a leaking drum inside a cargo container in RCRA storage unit #1.</p>
92-001	1-29-92	1/2 gallon	<p>MATERIAL RELEASED: aqueous waste that might have contained D004, D005, D007, D008, D011, F001, F002, F003, F007, F008, F009</p> <p>A release from the primary transfer pipe (which is RCRA-regulated) into the secondary pipe between Buildings 881 and 887.</p>
92-002	1-29-92	1 quart	<p>MATERIAL RELEASED: spent battery acid that might contain toxic levels of cadmium (D006)</p> <p>A release outside Building 373 from used Ni-Cad batteries during storage prior to disposal.</p>
92-003	2-17-92	N/A	<p>MATERIAL RELEASED: N/A</p> <p>Lack of adequate secondary containment for RCRA-regulated hazardous storage tanks (T-2, T-3 and T-5) in Building 444</p>
92-004	2-26-92	14 filters	<p>MATERIAL RELEASED: used oil filters containing toxic levels of lead (D008)</p> <p>Inadvertent disposal of 14 filters into the sanitary landfill. Analysis is being conducted to establish if the filters should be managed as RCRA-regulated waste.</p>
92-005	4-16-92	35 gallons	<p>MATERIAL RELEASED: accumulated liquids</p> <p>Waste within a secondary containment system for B-866 waste collection tanks (RCRA Unit Nos. 40.17, 40.18, 40.19, 40.32 and 40.33) that had not been removed within 24 hours. The waste collected in these tanks had been characterized to contain D001, D002, D004, D005, D006, D007, D008, D011, F001, F002, F003</p>

92-006	4-14-92	5-6 gallons	<p>MATERIAL RELEASED: accumulated liquids (sump in B-444/447)</p> <p>Lab analysis proved no RCRA-regulated waste present, but operations of RCRA-regulated tank system continued with "unfit-for-use" secondary containment.</p>
92-007	4-24-92	< 50mL	<p>MATERIAL RELEASED: acidic solution (D002, D006, D007, D008)</p> <p>A release from a mixed residue tank (D1804) in B-771 containing nitric acid contaminated with Plutonium was not cleaned up within 24 hours.</p>
92-008	4-24-92	<50 mL	<p>MATERIAL RELEASED: acidic solution (D002, D006, D007, D008)</p> <p>A release from a mixed residue tank (D160A) in B-371 containing hydrochloric acid and potassium hydroxide was not cleaned up within 24 hours.</p>
92-009	4-29-92	N/A	<p>MATERIAL RELEASED: N/A</p> <p>No RCRA-regulated waste present, but operations of the RCRA-regulated tank system continue in B-779 with "unfit-for-use" secondary containment.</p>
92-010	5-8-92	< 20 mL	<p>MATERIAL RELEASED: caustic solution (D002, D006, D007, D008)</p> <p>A release from a mixed residue tank system (D400A and D400C) in B-371, room 1115, was not cleaned up within 24 hours. The release was captured within the double plastic wrap covering the ancillary equipment.</p>
92-011	5-8-92	< 3 mL	<p>MATERIAL RELEASED: N/A</p> <p>Process knowledge established the release from a tank (D1414) in B-771, room 181A to be ferrous sulfate which is not a RCRA-regulated waste. The tank had been erroneously identified as a mixed residue tank; the release was not cleaned up within 24 hours even though it was contained within plastic wrap covering the ancillary equipment.</p>

92-012	5-8-92	< 1 pint	<p>MATERIAL RELEASED: caustic solution (D002, D006, D007, D008)</p> <p>A release from a mixed residue tank system (D2A and D2B) in B-371, room 1115, was not cleaned up within 24 hours. The release was contained within a glovebox.</p>
92-013	5-20-92	30 gallons	<p>MATERIAL RELEASED: process aqueous waste (containing chromium)(D007)</p> <p>Operation of the RCRA regulated 90-day tank systems in B-731 with "unfit-for-use" secondary containment was continued and spill material was not removed within 24 hours.</p>
92-014	5-24/26-92	1386 gallons	<p>MATERIAL RELEASED: caustic solution (based on analytical results completed after release, material released was not RCRA-regulated hazardous waste)</p> <p>A release from a liquid process RCRA-regulated waste line in B-371, room 1117 was not cleaned up within 24 hours.</p>
92-015	6-1-92	45-60 gal	<p>MATERIAL RELEASED: accumulated liquid (based on analytical results completed after release, material released was not RCRA-regulated hazardous waste)</p> <p>The secondary containment system for the 90-day RCRA regulated waste collection tanks in B-528 is "unfit-for-use" due to a 2-inch crack in the fiber glass liner of the sump pit.</p>
92-016	6-2-92	2-3 gallons	<p>MATERIAL RELEASED: accumulated liquid (based on analytical results completed after release, material released was not RCRA-regulated hazardous waste)</p> <p>A release of process aqueous waste from RCRA-regulated ancillary equipment into the secondary containment system (the process waste transfer line within B-123). The release was not cleaned up within 24 hours.</p>
92-017	6-10-92	50 gallons	<p>MATERIAL RELEASED: oil/solvent mixture that might have contained D001, D004, D018, D019, D028, D029, D035, D038, D040, D043, F001, F003</p> <p>A release from a waste tank in B-774, room 210, that was not cleaned up within 24 hours.</p>

92-018 6-16-92 67 gallons MATERIAL RELEASED: accumulated liquid (based on analytical results completed after release, material released was not RCRA-regulated hazardous waste)

Accumulated liquids (process aqueous waste) were removed from the sump in B-883 and pumped into RCRA regulated tank A-24. The secondary containment for the sump had been determined to be inadequate.

Environmental Release Report to LEPC or SERC

None for July, 1991 through June, 1992.

EPA National Response Center Notification

Reported by DOE	9-27-91	7 quart	MATERIAL RELEASED: antifreeze A release from a private vehicle onto asphalt surface in the Building 334 parking lot.
Reported by DOE	10-10-91	1 gallon	MATERIAL RELEASED: antifreeze A release from a private vehicle onto asphalt surface at the north entrance to Portal 1.
Reported by DOE	10-11-91	1-1/2 gal	MATERIAL RELEASED: antifreeze A release onto asphalt surface from a private vehicle in the parking lot east of Building 886.
93901	10-25-91	1/2 gallon	MATERIAL RELEASED: antifreeze A release from street sweeper to the pavement north of Building 331.
102789	1-14-92	1 quart	MATERIAL RELEASED: antifreeze A release from a private vehicle onto asphalt surface at the parking lot west of 904 Pad. Release is reportable under 40 CFR 302.4.
106453	2-11-92	6 quarts	MATERIAL RELEASED: antifreeze A release from a private vehicle onto the asphalt road (Central Avenue) due to a ruptured radiator hose.

106811	2-14-92	1 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle onto asphalt surface which flowed to soil between T690B and T690C.</p>
107772	2-22-92	2 quarts	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle onto asphalt surface at the parking lot by T130D.</p>
113123	4-5-92	< 1 gallon	<p>MATERIAL RELEASED: diesel fuel</p> <p>A release from a diesel powered pump to soil and surface water at Pond B5. The release resulted in a sheen of oil on navigable water which is reportable under 40 CFR 110.10.</p>
114891	4-20-92	1 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle onto asphalt surface at parking lot east of B-119.</p>
115386	4-22-92	2-3 gallons	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a front-end loader to soil at construction site.</p>
115727	4-26-92	< 1 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle onto asphalt surface in a parking lot between B-111 and B-113.</p>
118275	5-18-92	~ 1/2 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle onto asphalt surface in the 123 parking lot.</p>
118622	5-20-92	~ 1/2 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle onto asphalt surface in the parking area of B-334.</p>
120608	6-5-92	2 quarts	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle onto asphalt surface in the parking area west of B-060.</p>

23209 6-22-92 50 gallons The National Response Center was notified of a release of possibly contaminated ground water; however, upon further investigation and analytical testing, the material was characterized as non-hazardous.

NOTE 1: All releases reportable under 40 CFR 302.4.

NOTE 2: Assume antifreeze contains 50 % ethylene glycol and 50 % water. Reportable quantity to National Response Center for ethylene glycol is 1 pound; therefore, the reporting level for an antifreeze mixture is 2 pounds or approximately 1 quart.

NOTE 3: Amounts listed in table are approximate estimates of quantity released.

CAUSE ANALYSIS

Cause Analysis seeks to identify the basic cause and effect relationship of a spill. The goal of the analysis is to prevent the possibility of future spills by eliminating the known causes of today's spills. The following is a rudimentary analysis of the 12-month period from July 1991 through June 1992. The purpose is to emphasize the weaknesses so that we can focus our collective attention on preventing future, similar incidents. It should be noted that a specific incident may have more than one root cause. In addition, a formal cause analysis is completed by the responsible Operations Manager for any release that is reportable to DOE, RFO.

<u>TYPE OF ERROR</u>	<u>NUMBER OF INCIDENTS</u>	<u>RELATIVE PERCENT</u>
<u>Personnel</u>	<u>41</u>	<u>23.8</u>
Procedure Not Followed	1	0.6
Training Deficiency	4	2.3
Lack of Attention	27	15.7
Programmatic Deficiency	5	2.9
Communication Deficiency	4	2.3
<u>Procedural</u>	<u>4</u>	<u>2.3</u>
Incomplete/Nonexistent	4	2.3
Incorrect Information	0	0.0
<u>Equipment</u>	<u>70</u>	<u>40.7</u>
Design Deficiency	14	8.1
Maintenance Deficiency	19	11.1
Premature Wearout	17	9.9
Installation/Mfg Deficiency	3	1.7
Other	17	9.9
<u>Privately Owned Vehicles</u>	<u>28</u>	<u>16.3</u>
<u>Not Investigated</u>	<u>29</u>	<u>16.9</u>

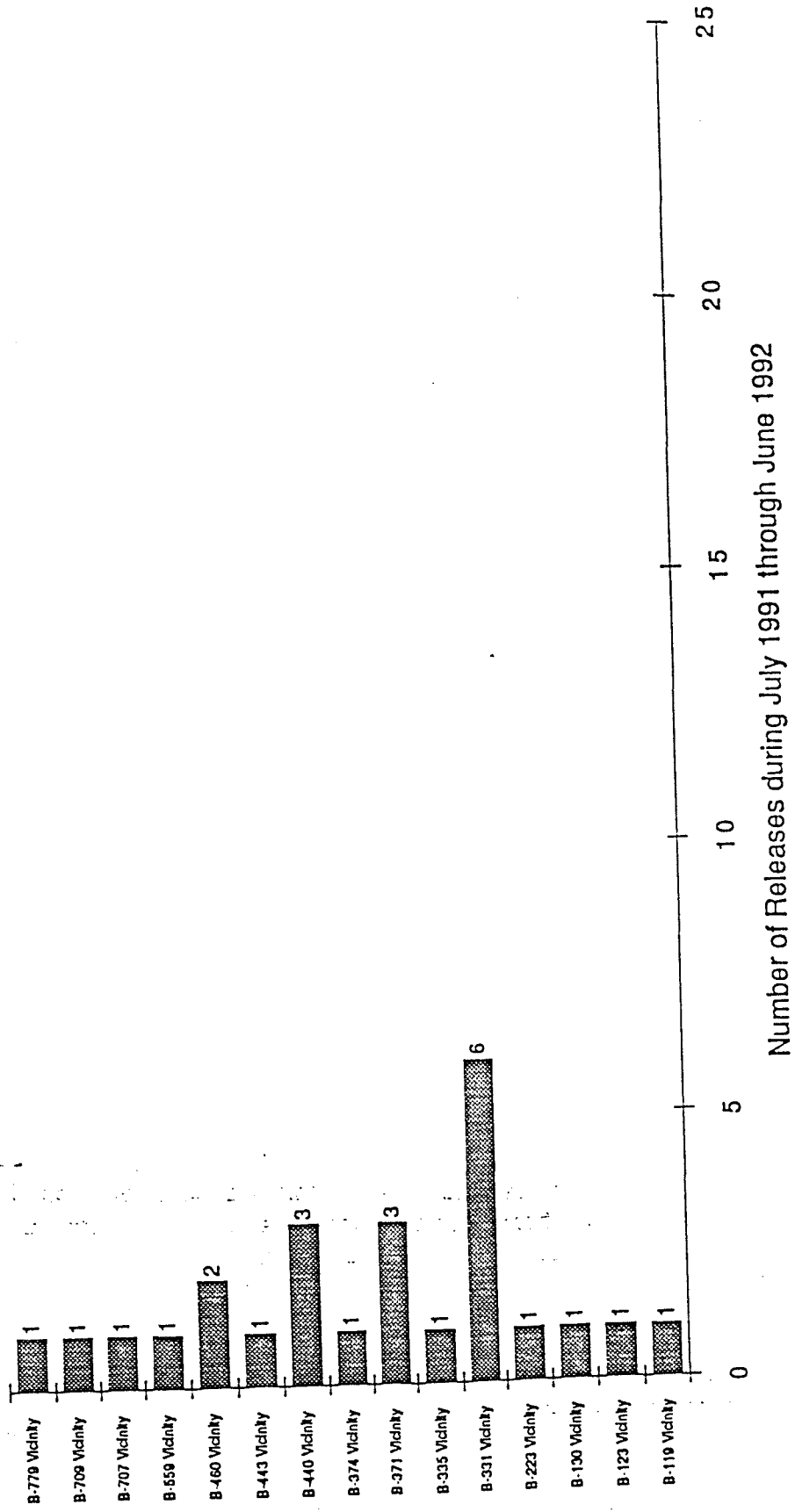
RELEASE GRAPHICS

RELEASES⁽¹⁾ OCCURRING INSIDE OR OUTSIDE BUILDINGS OR CONTAINMENT

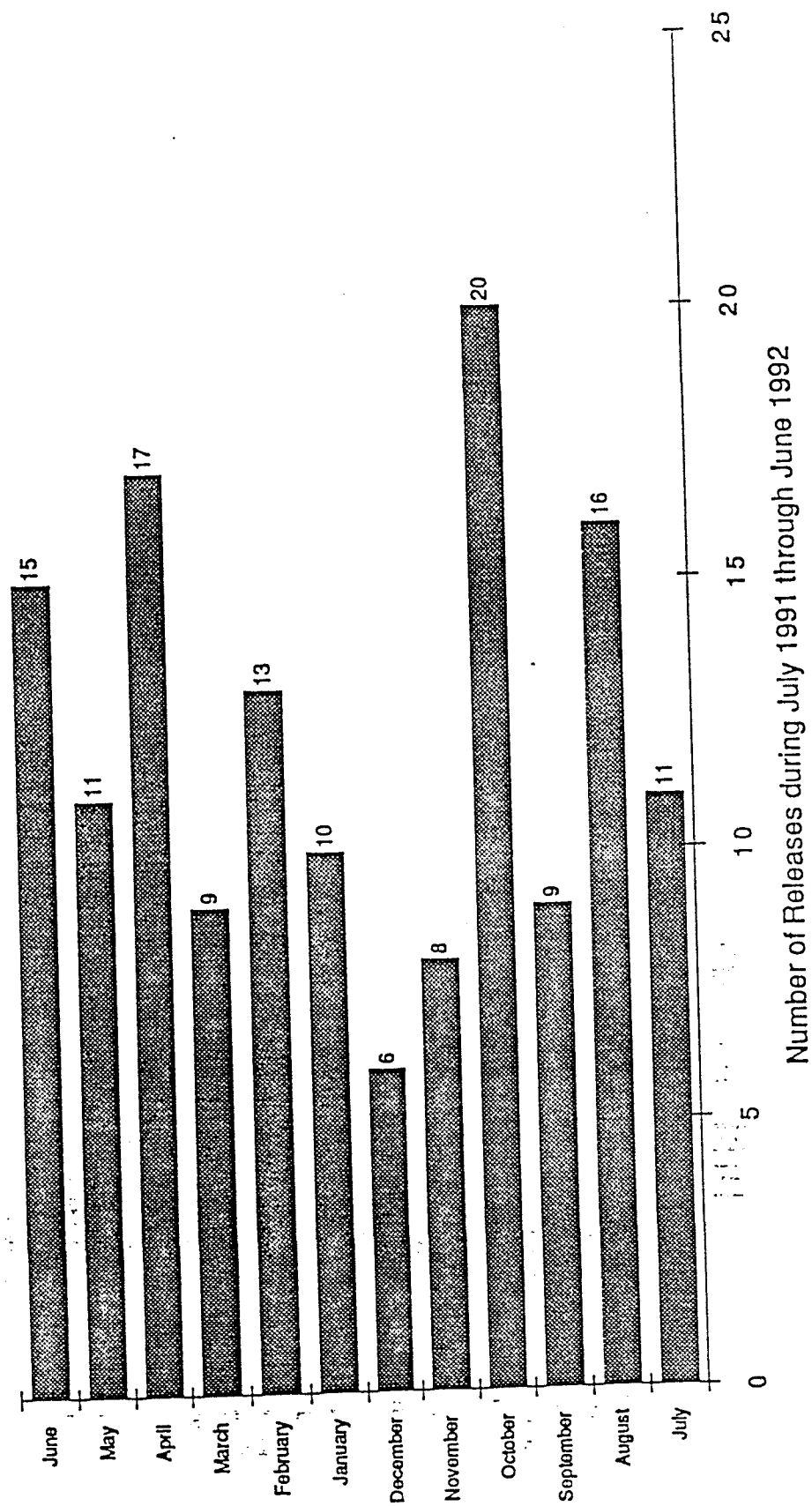
- (1) Includes all reported releases greater than or equal to one pound (or one pint of aqueous liquids) of hazardous substances (i.e., CERCLA hazardous substance, RCRA hazardous waste, SARA Title III extremely hazardous substance, DOT hazardous material, petroleum products, and nonhazardous substances (e.g., water) contaminated by hazardous constituents.

NOTE: All reported mercury releases are included in data base including releases less than one pound.

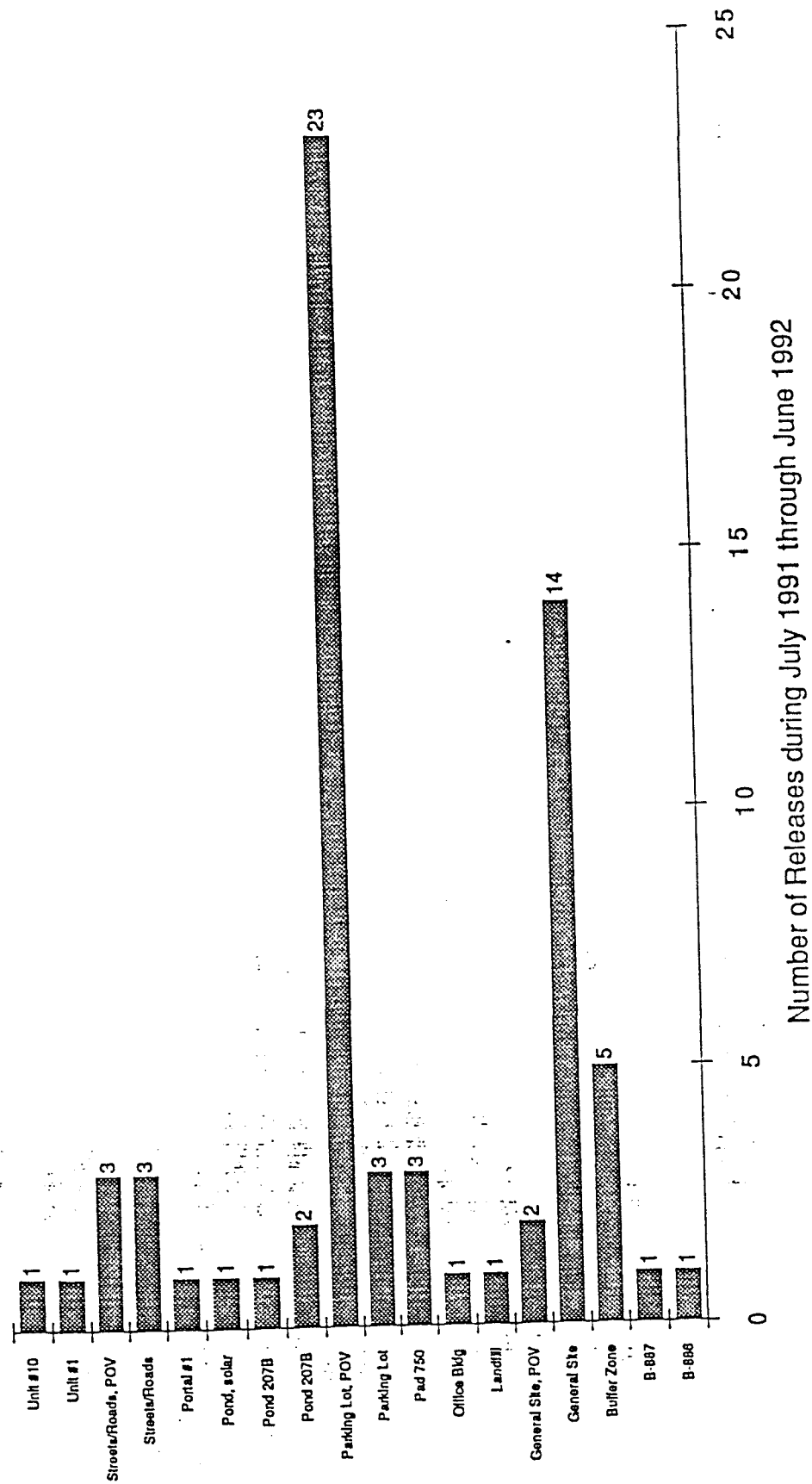
Outside Only Releases by Location



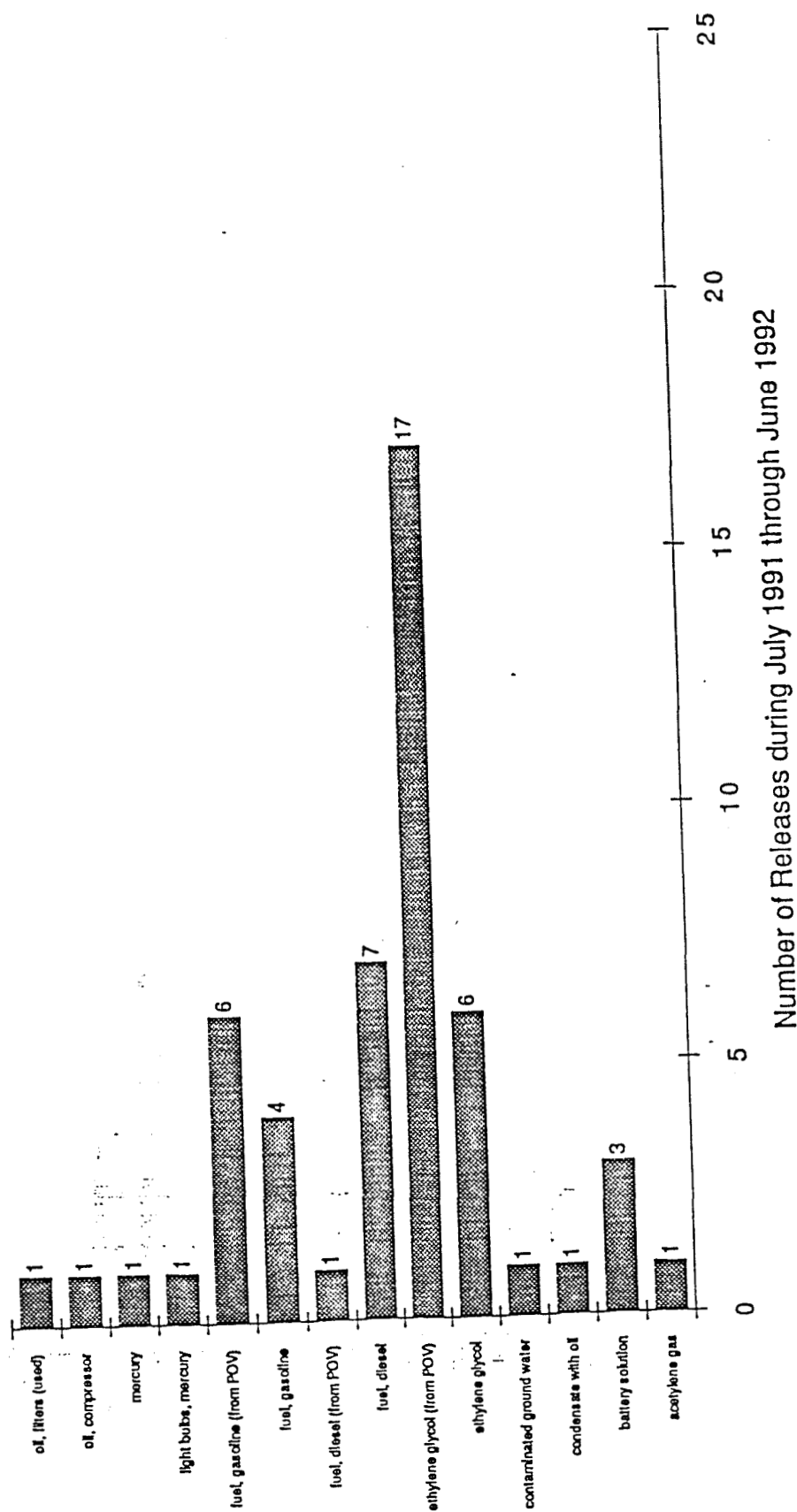
Inside and Outside Releases by Month




Inside and Outside Releases by Location



Outside Only Releases by Substance Type



INTEROFFICE CORRESPONDENCE

DATE: January 27, 1993
TO: Distribution
FROM:  A. L. Schubert, Waste Programs, Bldg. T130C, X5251
SUBJECT: HAZARDOUS SUBSTANCES RELEASE REPORT - 1992 FOURTH QUARTER.
ALS-047-93


Attached is the Hazardous Substances Release Report for the time period of January through December 1992. The report is divided into four sections: 1) Offsite Regulatory Notifications, 2) Root Cause Analysis, 3) Release Graphics and 4) Special Topics. Please route this report to all personnel with interest or responsibility for release investigations or critique meetings.

~~If you do not wish to receive a copy of this report, please send a written request to~~
M. L. Johnson, Waste Regulatory Programs, Building T130C. If you have any questions or would like more information, please call M. L. Johnson at extension 5033 or digital pager 1028, or B. B. Haynes at extension 7754 or digital pager 0620.

BBH:kam

Attachment:
As Stated

Distribution

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Definitions:

For the purpose of this report only, the term hazardous substance includes any element, compound, mixture, solution or substance that may endanger human health or the environment including hazardous substances (which include radionuclides) as defined by 40 CFR Part 302, extremely hazardous substances as defined by 40 CFR Part 355, hazardous materials as defined by 49 CFR Part 173, hazardous waste as defined by 40 CFR Part 261, oil and petroleum products (including antifreeze), and nonhazardous substances (e.g. water) contaminated by hazardous constituents.

A **release** includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging or dumping of a hazardous substance **inside any building/containment or to the environment**. Release also includes the abandonment or discarding of barrels, containers, and other closed receptacles of any hazardous substance. The discovery of accumulated liquids within secondary containment for Resource Conservation and Recovery Act (RCRA) regulated systems, that appear to be waste-like in nature or have been analytically tested and verified to be a solid or hazardous waste, have also been included in this report.

An **internally reportable release** includes all solid and liquid releases of hazardous substances equal to or greater than one pound (one pint for aqueous liquids) and all gaseous releases that occur inside or outside buildings or containments. A release of solid or liquid hazardous substance less than one pound is also internally reportable if the release directly impacts the environment. These releases must be reported to the Shift Superintendent and the Occurrence Notification Center (ONC). All reported mercury spills (including releases less than one pound, approximately 2 1/2 teaspoons) are included in the data base. Waste Regulatory Programs is then responsible for evaluating if additional reporting is required to offsite regulatory agencies.

A **release reportable to the Department of Energy, Rocky Flats Office (DOE, RFO)** is any release that has been categorized and reported to DOE, RFO as an Off-Normal, Unusual, or Emergency occurrence as defined by DOE Order 5000.3A.

Releases from **privately owned vehicle (POV)** have been specifically identified in the charts. Releases that occur inside of a building are labeled as Bldg-XXX (reference the releases by location charts). All other spills (including releases identified Bldg-XXX Vicinity) occurred outside a building.

Offsite Regulatory Notifications:

This section of the report documents the occurrences for which the RCRA Contingency Plan (dated 10-24-91) was implemented, an Environmental Release Report was generated or notifications were made to EPA National Response Center (NRC), State Emergency Response Commission (SERC) and/or Local Emergency Planning Committees (LEPC). Our number one goal is to reduce these occurrences and to minimize the threat to human health and the environment.

When the RCRA Contingency Plan is implemented, a report is filed with DOE, the Colorado Department of Health (CDH) and the Environmental Protection Agency (EPA), Region VIII. The plantsite is required to implement the plan whenever there is a fire, explosion or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

Specifically at the Rocky Flats Plant (RFP), the RCRA Contingency Plan is implemented whenever there is a release of regulated hazardous waste greater than one pound (or one pint of aqueous liquids) if the release is outside containment. For releases inside containment, the plan is implemented if more than the CERCLA equivalent quantity of regulated waste is released. The plan is also implemented if a release (of any size) from a RCRA-regulated tank system is not cleaned up within 24 hours. In addition, The RCRA Contingency Plan is implemented if there is a fire, explosion or similar event involving a hazardous waste release or an active hazardous waste management unit. Currently, a modification to the RCRA Contingency Plan has been submitted to DOE but cannot be implemented until it has been approved by CDH.

As of July 19, 1991, releases of petroleum products have been evaluated to determine if the resultant waste contained any hazardous waste constituents. If no written documentation is available to demonstrate that the specific petroleum product does not contain any hazardous waste constituents, the material resulting from clean up of a release must be managed as RCRA-regulated hazardous waste.

As of September 1, 1991, any release of ethylene glycol (including antifreeze) that equals or exceeds the reportable quantity of one pound (two pounds of a mixture of 50% antifreeze and 50% water) must be reported to the NRC. As of June 4, 1992, ethylene glycol spills that are reported to the NRC are not reportable to DOE, RFO (through the occurrence reporting process) unless 100 pounds (approximately 24 gallons of a mixture of 50% antifreeze and 50% water) or more has been released to the environment.

Cause Analysis:

This section of the report is designed to assist the plant site in reducing the number of spills/releases by improving the control systems. These control systems are divided into Personnel, Procedures, and Equipment. **Not Investigated** refers to spills/releases for which insufficient information is available or manpower is not available to investigate occurrences. All spills/releases equal to or exceeding one pound of liquid or solid are evaluated as to the primary failure mode. All confirmed gas releases are investigated on a case-by-case basis. A new category has been included in the cause analysis to address releases from privately owned vehicles. Typically, these occurrences were not investigated due to the nature of the occurrence. A formal root cause determination is performed by the responsible Operations Manager for all releases that were reported to DOE, RFO through the Occurrence Reporting Process. We request that Operations Managers continue to investigate the cause of every reportable release and to initiate corrective action which will preclude any recurrence. Based on the cause analysis documented in this report, 26 incidents were caused by a lack of attention and 26 incidents were caused by maintenance deficiency.

Release Graphics:

This section of the report is a two-part package which displays data in three different ways for releases occurring on the plant site. Both parts of the package sort the data according

to location, substance and month. The difference in the two packages is that the first includes all of the releases of hazardous substances which were reported for the entire plant site for a 12-month period. The second package limits the data to those releases occurring outside buildings or containment structures for the same time period. Outside releases are immediate threats to human health and the environment and should, therefore, be targeted for serious corrective measures. The data includes releases greater than or equal to one pound (or one pint for aqueous liquids), except that for mercury, all known releases of mercury have been included in the data base. The release graphics have been revised to specifically identify the releases from privately owned vehicles.

Special Topics:

This section of the report includes information clarifying release reporting requirements.

A buildup of crystalline material on flange connections or fittings is considered a release and may be reportable to offsite regulatory agencies if the release is associated with the RCRA interim status or 90-day storage tank system. The release must be reported to the Shift Superintendent if one pound (or one pint aqueous liquid) or more is released **or** a release from a RCRA-regulated waste tank system has not been cleaned up within 24 hours. All releases from RCRA interim status or 90-day storage tank systems must be cleaned up within 24 hours.

In addition, a release of liquids into plastic wrap covering ancillary equipment (e.g., piping, valves, flanges) is considered a reportable release from the primary containment if: 1) one pound (or pint of aqueous liquids) or greater of RCRA-regulated waste is released into the plastic; or 2) if the liquid from a RCRA-regulated tank is not cleaned up within 24 hours.

Additionally, any discovery of accumulated liquids within a secondary containment for RCRA-regulated systems must be cleaned up within 24 hours. If it is not cleaned up within 24 hours, a determination must be made as to whether the liquid is a RCRA-regulated waste, and if this determination cannot be made, the RCRA Contingency Plan may have to be implemented. If the accumulated liquids are known to be non-hazardous and the material has not been cleaned up within 96 hours, then this noncompliance must be reported to DOE, RFO through the Occurrence Reporting process.

A release from primary containment (e.g., piping, tanks, valves, pumps, etc.) of one pound (one pint aqueous liquids) or more of hazardous substance which is contained within a glovebox should be reported to the Shift Superintendent unless the release is associated with in-process accumulation of material.

A release of RCRA-regulated hazardous waste from primary containment that is fully contained within a glovebox does not require implementation of the RCRA Contingency Plan because the release did not impact health or the environment. A release of hazardous waste that is not fully contained within the glovebox may require implementation of the RCRA Contingency Plan.

A release within a glovebox that results in a hazardous waste could result in a noncompliance with RCRA regulations concerning storage of hazardous waste in approved accumulation areas. A case-by-case assessment of the release must be completed by Waste Technical Support (previously known as Waste Area Engineering) to evaluate if the release resulted in noncompliant storage of a hazardous waste or if the release is associated with in-process accumulation of material.

HAZARDOUS SUBSTANCE RELEASES

OFFSITE REGULATORY NOTIFICATIONS

RCRA Contingency Plan Implementation Reports - January through December 1992

<u>REPORT NUMBER</u>	<u>DATE OF RELEASE</u>	<u>AMOUNT RELEASED</u>	<u>MATERIAL RELEASED and COMMENTS</u>
92-001	1-29-92	1/2 gallon	<p>MATERIAL RELEASED: aqueous waste that might have contained D004, D005, D007, D008, D011, F001, F002, F003, F007, F008, F009</p> <p>A release from the primary transfer pipe (which is RCRA-regulated) into the secondary pipe between Buildings 881 and 887.</p>
92-002	1-29-92	1 quart	<p>MATERIAL RELEASED: spent battery acid that might contain toxic levels of cadmium (D006)</p> <p>A release outside Building 373 from used Ni-Cad batteries during storage prior to disposal.</p>
92-003	2-17-92	N/A	<p>MATERIAL RELEASED: N/A</p> <p>Lack of adequate secondary containment for RCRA-regulated hazardous storage tanks (T-2, T-3 and T-5) in Building 444</p>
92-004	2-26-92	14 filters	<p>MATERIAL RELEASED: used oil filters containing toxic levels of lead (D008)</p> <p>Inadvertent disposal of 14 filters into the sanitary landfill. Analysis is being conducted to establish if the filters should be managed as RCRA-regulated waste.</p>
92-005	4-16-92	35 gallons	<p>MATERIAL RELEASED: accumulated liquids</p> <p>Waste within a secondary containment system for B-866 waste collection tanks (RCRA Unit Nos. 40.17, 40.18, 40.19, 40.32 and 40.33) that had not been removed within 24 hours. The waste collected in these tanks had been characterized to contain D001, D002, D004, D005, D006, D007, D008, D011, F001, F002, F003</p>

92-006	4-14-92	5-6 gallons	<p>MATERIAL RELEASED: accumulated liquids (sump in B-444/447)</p> <p>Lab analysis proved no RCRA-regulated waste present, but operations of RCRA-regulated tank system continued with "unfit-for-use" secondary containment.</p>
92-007	4-24-92	< 50mL	<p>MATERIAL RELEASED: acidic solution (D002, D006, D007, D008)</p> <p>A release from a mixed residue tank (D1804) in B-771 containing nitric acid contaminated with Plutonium was not cleaned up within 24 hours.</p>
92-008	4-24-92	<50 mL	<p>MATERIAL RELEASED: acidic solution (D002, D006, D007, D008)</p> <p>A release from a mixed residue tank (D160A) in B-371 containing hydrochloric acid and potassium hydroxide was not cleaned up within 24 hours.</p>
92-009	4-29-92	N/A	<p>MATERIAL RELEASED: N/A</p> <p>No RCRA-regulated waste present, but operations of the RCRA-regulated tank system continue in B-779 with "unfit-for-use" secondary containment.</p>
92-010	5-8-92	< 20 mL	<p>MATERIAL RELEASED: caustic solution (D002, D006, D007, D008)</p> <p>A release from a mixed residue tank system (D400A and D400C) in B-371, room 1115, was not cleaned up within 24 hours. The release was captured within the double plastic wrap covering the ancillary equipment.</p>
92-011	5-8-92	< 3 mL	<p>MATERIAL RELEASED: ferrous sulfate product</p> <p>Process knowledge established the release from a tank (D1414) in B-771, room 181A to be ferrous sulfate which is not a RCRA-regulated waste. The tank had been erroneously identified as a mixed residue tank; the release was not cleaned up within 24 hours even though it was contained within plastic wrap covering the ancillary equipment.</p>

92-012	5-8-92	< 1 pint	<p>MATERIAL RELEASED: caustic solution (D002, D006, D007, D008)</p> <p>A release from a mixed residue tank system (D2A and D2B) in B-371, room 1115, was not cleaned up within 24 hours. The release was contained within a glovebox.</p>
92-013	5-20-92	30 gallons	<p>MATERIAL RELEASED: process aqueous waste (containing chromium) (D007)</p> <p>Operation of the RCRA regulated 90-day tank systems in B-731 with "unfit-for-use" secondary containment was continued and spill material was not removed within 24 hours.</p>
92-014	5-24/26-92	1386 gallons	<p>MATERIAL RELEASED: caustic solution (based on analytical results completed after release, material released was not RCRA-regulated hazardous waste)</p> <p>A release from a liquid process RCRA-regulated waste line in B-371, room 1117 was not cleaned up within 24 hours.</p>
92-015	6-1-92	45-60 gal	<p>MATERIAL RELEASED: accumulated liquid (based on analytical results completed after release, material discovered was not RCRA-regulated hazardous waste)</p> <p>The secondary containment system for the 90-day RCRA regulated waste collection tanks in B-528 is "unfit-for-use" due to a 2-inch crack in the fiber glass liner of the sump pit.</p>
92-016	6-2-92	2-3 gallons	<p>MATERIAL RELEASED: accumulated liquid (based on analytical results completed after release, material discovered was not RCRA-regulated hazardous waste)</p> <p>A release of process aqueous waste from RCRA-regulated ancillary equipment into the secondary containment system (the process waste transfer line within B-123). The release was not cleaned up within 24 hours.</p>

92-017	6-10-92	50 gallons	<p>MATERIAL RELEASED: oil/solvent mixture that might have contained D001, D002, D003, D004, D005, D007, D010, D011, D018, D019, D028, D029, D035, D038, D040, D043, F001, F002, F003</p> <p>A release from a waste tank in B-774, room 210, that was not cleaned up within 24 hours.</p>
92-018	6-16-92	67 gallons	<p>MATERIAL RELEASED: accumulated liquid (based on analytical results completed after release, material discovered was not RCRA-regulated hazardous waste)</p> <p>Accumulated liquids (process aqueous waste) were removed from the sump in B-883 and pumped into RCRA regulated tank A-24. The secondary containment for the sump had been determined to be inadequate.</p>
92-019	discovered 7-14-92	< 1 cup	<p>MATERIAL RELEASED: contaminated water (Awaiting lab analysis to confirm non-hazardous status.)</p> <p>Liquid was observed within a secondary containment system for the RCRA-regulated Sump Tank Unit 40.47, Room 151, Building 865, and the waste had not been removed within 24 hours.</p>
92-020	9-15-92	200 gallon	<p>MATERIAL RELEASED: process aqueous waste (D002, corrosive)</p> <p>A release of process waste from a RCRA regulated tank system (sump tank ST-5, RCRA unit 40.15) into the secondary containment occurred. The quantity of released material did not exceed the secondary containment capacity and did not go over the top of the liner. However, approximately 6 gallons were released through the liner but were contained within the concrete pit.</p>
92-021	9-25-92	~1 gallon	<p>MATERIAL RELEASED: fuel, diesel (D018, benzene)</p> <p>A release occurred from an overturned container of diesel fuel on the asphalt; dirt was shoveled onto the spill to contain it. The excess petroleum liquids were covered with oil-dri. Then the soil and absorbent were erroneously unloaded within the fenced landfill area.</p>

92-022 11-10-92 100 gallon **MATERIAL RELEASED:** process aqueous waste (D002, D005, D006, D007, D008, D011)

Defective housing in pump leaked 100 gallons of process waste after transfer operation. This liquid was caught in secondary containment.

92-023 11-30-92 490 gal **MATERIAL RELEASED:** interceptor trench water (D006, F001, F002, F003, F005, F006, F007, F009)

The transfer line from the central sump to the 207-B north solar pond separated at the berm allowing a release of water down the east slope of the berm outside of the pond.

(1) As of October 31, 1991, the RCRA Contingency Plan was modified to limit reporting of release of hazardous waste. Prior to this change, release of hazardous substances that resulted in a hazardous waste required implementation of the Plan.

Environmental Release Report to LEPC or SERC

None for January through December 1992.

EPA National Response Center Notification

102789 1-14-92 1 quart **MATERIAL RELEASED:** antifreeze

A release from a private vehicle onto asphalt surface at the parking lot west of 904 Pad. Release is reportable under 40 CFR 302.4.

106453 2-11-92 6 quarts **MATERIAL RELEASED:** antifreeze

A release from a private vehicle onto the asphalt road (Central Avenue) due to a ruptured radiator hose.

106811 2-14-92 1 gallon **MATERIAL RELEASED:** antifreeze

A release from a private vehicle onto asphalt surface which flowed to soil between T690B and T690C.

107772 2-22-92 2 quarts **MATERIAL RELEASED:** antifreeze

A release from a private vehicle onto asphalt surface at the parking lot by T130D.

113123	4-5-92	< 1 gallon	<p>MATERIAL RELEASED: diesel fuel</p> <p>A release from a diesel powered pump to soil and surface water at Pond B5. The release resulted in a sheen of oil on navigable water which is reportable under 40 CFR 110.10.</p>
114891	4-20-92	1 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle onto asphalt surface at parking lot east of B-119.</p>
115386	4-22-92	2-3 gallons	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a front-end loader to soil at construction site.</p>
115727	4-26-92	< 1 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle onto asphalt surface in a parking lot between B-111 and B-113.</p>
118275	5-18-92	~ 1/2 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle onto asphalt surface in the 123 parking lot.</p>
118622	5-20-92	~ 1/2 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle onto asphalt surface in the parking area of B-334.</p>
120608	6-5-92	2 quarts	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle onto asphalt surface in the parking area west of B-060.</p>
123209	6-22-92	50 gallons	<p>The National Response Center was notified of a release of possibly contaminated ground water; however, upon further investigation and analytical testing, the material was characterized as non-hazardous.</p>
125272	7-6-92	2 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle to the asphalt at parking lot by Portal 2.</p>

125881	7-9-92	1 quart	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle to the asphalt at parking lot south of T130D.</p>
127185	7-16-92	1 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle to the asphalt at parking lot near T130D.</p>
127993	7-21-92	1/2 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle to the asphalt in the parking lot outside of PACs 1.</p>
128303	7-22-92	1 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle to the asphalt in the parking area north of B-112.</p>
128305	7-22-92	1 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle to the asphalt in the parking area north of guard post.</p>
128789	7-24-92	~1 quart	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle to the asphalt in the parking area north of B-119.</p>
132341	8-17-92	1 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle to the asphalt in the parking lot southwest of B-130.</p>
132722	8-20-92	~2 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle to the asphalt in the parking area north of B-662.</p>
133284	8-21-92	1 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a portable welder to the asphalt area by 732 pit.</p>
135395	9-4-92	2 1/2gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from the radiator hose of a trash truck to the asphalt in the parking area near B-460.</p>

135432	9-4-92	1/2 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a welder near the process waste pit 732.</p>
136635	9-14-92	2quarts	<p>MATERIAL RELEASED: antifreeze</p> <p>A release from a private vehicle to the asphalt in the parking area east of B-112.</p>
139834	10-8-92	1/2 gal	<p>MATERIAL RELEASED: antifreeze</p> <p>Employee vehicle leaking</p>
140809	10-15-92	1 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>Hose ruptured on contractor vehicle causing release of approximately 1 gallon of antifreeze / water solution to the pavement.</p>
140869	10-16-92	1 quart	<p>MATERIAL RELEASED: antifreeze</p> <p>Private vehicle leaked antifreeze on to the pavement in the Building 460 parking lot.</p>
142199	10-27-92	5 gallon	<p>MATERIAL RELEASED: fuel, diesel</p> <p>Approximately 5 gallons of diesel fuel leaked from a small fuel tank into the soil. The fuel also then leached through the soil and into the water.</p> <p>(The tank has approximately 45-50 gallons capacity; however it generally is filled to only 15-20 gallons.)</p>
143173	11-3-92	10 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>Coolant / antifreeze overflowed from a backup power generator during a test near B-443. Ten gallons was released to the pad and surrounding soil areas.</p>
144062	11-9-92	2 gallon	<p>MATERIAL RELEASED: antifreeze</p> <p>Employee's personal vehicle ruptured radiator return hose, discharging fluid to the pavement.</p>

144425	11-11-92	28 lbs	MATERIAL RELEASED: asbestos Discovered RQ of asbestos from insulation from an old boiler released to the ground. It was estimated that 28 lbs of asbestos in 40 lbs of insulation was missing from vessel and was on the ground..
147009	11-30-92	490 gallon	MATERIAL RELEASED: interceptor trench water The transfer line from the central sump to the 207-B north solar pond separated at the berm allowing a release of water down the east slope of the berm outside of the pond. The RQ used for the interceptor trench water was 10 lbs because the weight of the entire mixture was used to determine the quantity of hazardous constituents (D006, F001, F002, F003, F005, F006, F007, F009) released since analytical data was not readily available.
147381	12-2-92	4 gallon	MATERIAL RELEASED: antifreeze Antifreeze spilled from the radiator of a privately owned vehicle.

NOTE 1: All releases reportable under 40 CFR 302.4.

NOTE 2: Assume antifreeze contains 50 % ethylene glycol and 50 % water. Reportable quantity to National Response Center for ethylene glycol is 1 pound; therefore, the reporting level for an antifreeze mixture is 2 pounds or approximately 1 quart.

NOTE 3: Amounts listed in table are approximate estimates of quantity released.

CAUSE ANALYSIS

Cause Analysis seeks to identify the basic cause and effect relationship of a spill. The goal of the analysis is to prevent the possibility of future spills by eliminating the known causes of today's spills. The following is a rudimentary analysis of the 12-month period from January through December 1992. The purpose is to emphasize the weaknesses so that we can focus our collective attention on preventing future, similar incidents. It should be noted that a specific incident may have more than one root cause. In addition, a formal cause analysis is completed by the responsible Operations Manager for any release that is reportable to DOE, RFO.

<u>TYPE OF ERROR</u>	<u>NUMBER OF INCIDENTS</u>	<u>RELATIVE PERCENT</u>
<u>Personnel</u>	<u>43</u>	<u>19.6</u>
Procedure Not Followed	4	1.8
Training Deficiency	3	1.4
Lack of Attention	26	11.8
Programmatic Deficiency	5	2.3
Communication Deficiency	5	2.3
<u>Procedural</u>	<u>6</u>	<u>2.7</u>
Incomplete/Nonexistent	5	2.3
Incorrect Information	1	0.4
<u>Equipment</u>	<u>73</u>	<u>33.2</u>
Design Deficiency	17	7.7
Maintenance Deficiency	26	11.8
Premature Wearout	14	6.4
Installation/Mfg Deficiency	4	1.8
Other	12	5.5
<u>Privately Owned Vehicles</u>	<u>35</u>	<u>15.9</u>
<u>Not Investigated</u>	<u>63</u>	<u>28.6</u>

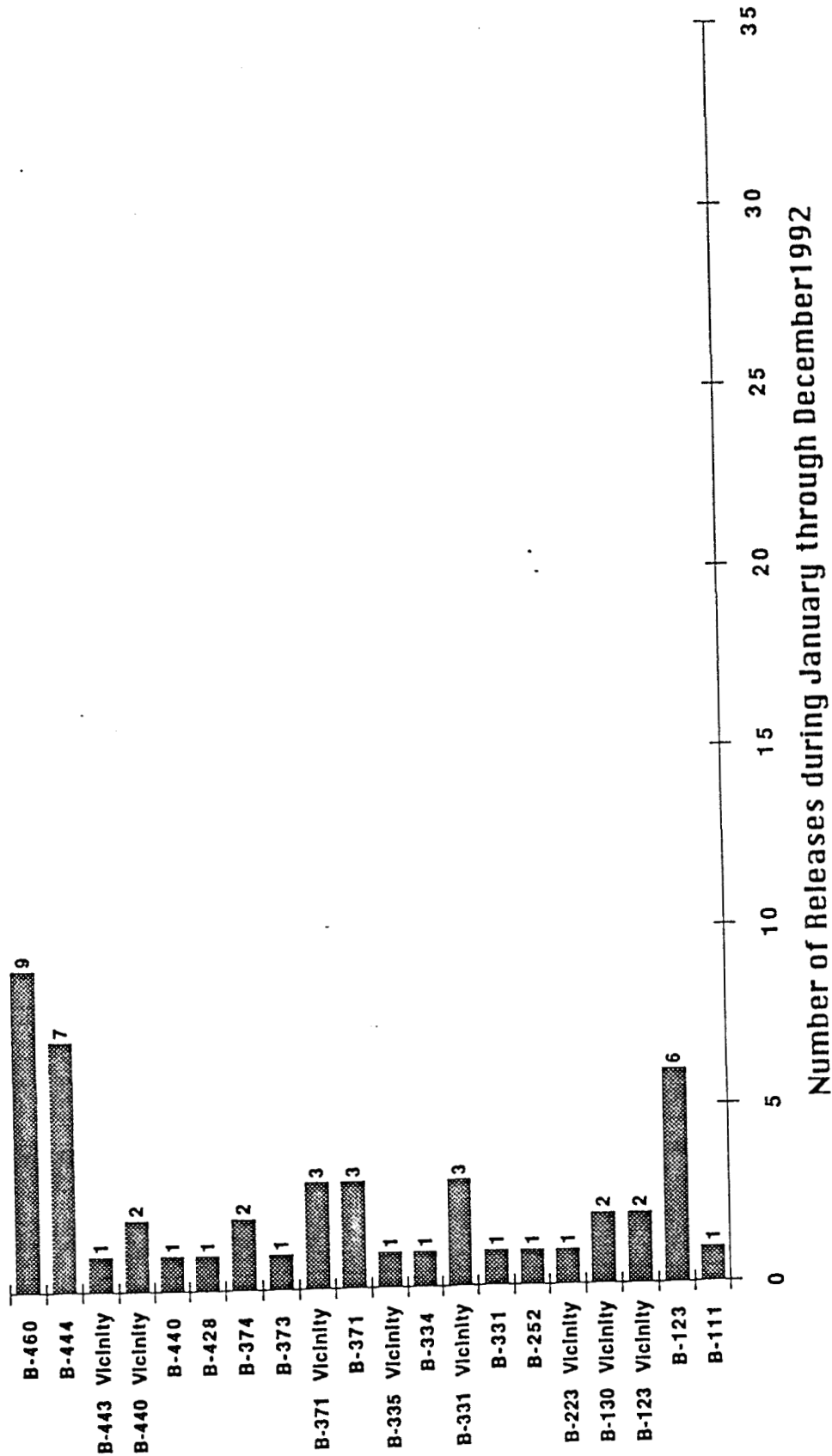
RELEASE GRAPHICS

RELEASES⁽¹⁾ OCCURRING INSIDE OR OUTSIDE BUILDINGS OR CONTAINMENT

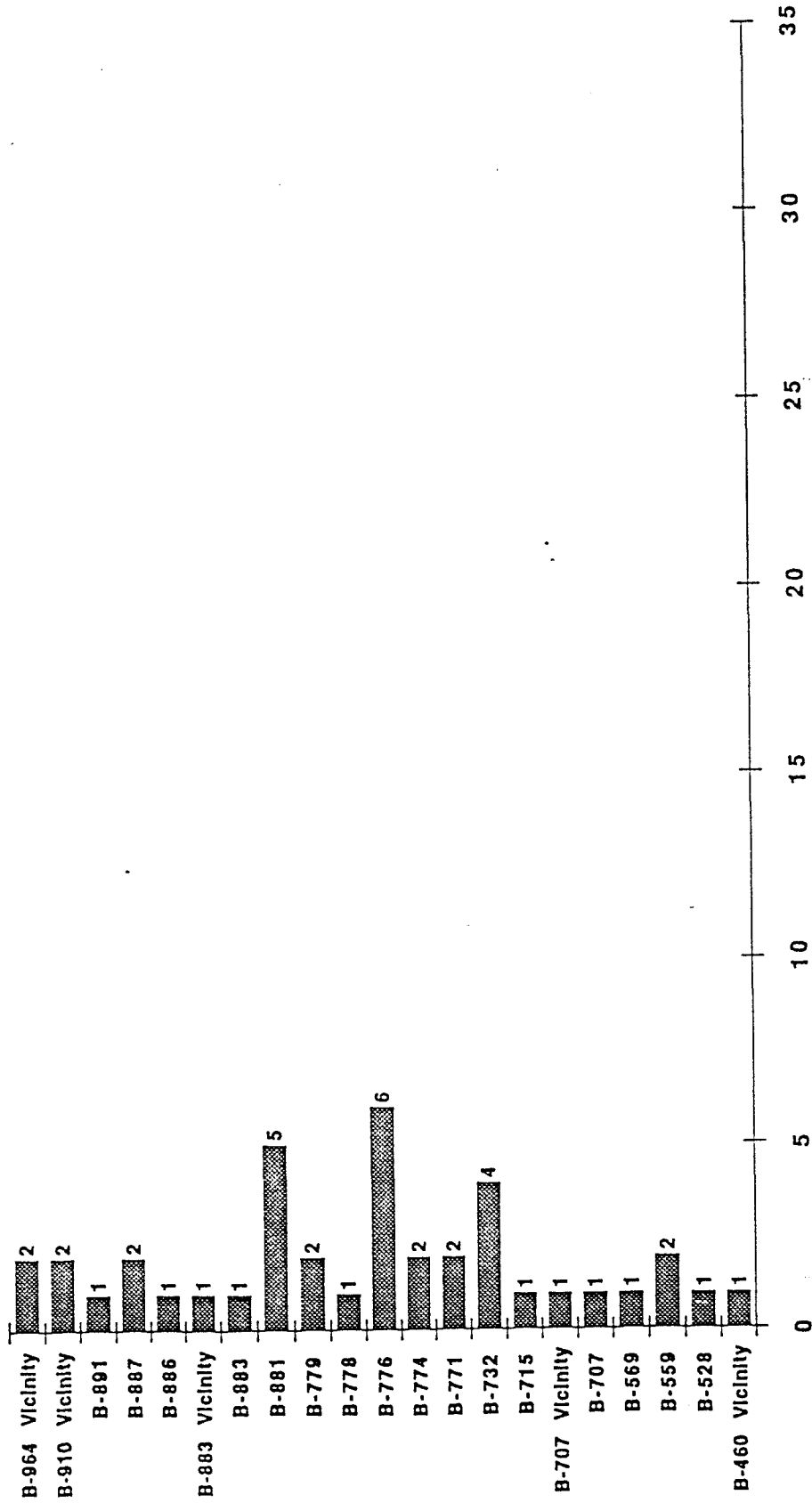
- (1) Includes all reported releases greater than or equal to one pound (or one pint of aqueous liquids) of hazardous substances (i.e., CERCLA hazardous substance, RCRA hazardous waste, SARA Title III extremely hazardous substance, DOT hazardous material, petroleum products, and nonhazardous substances (e.g., water) containing hazardous constituents.

NOTE: All reported mercury releases are included in data base including releases less than one pound.

Inside and Outside Releases by Location

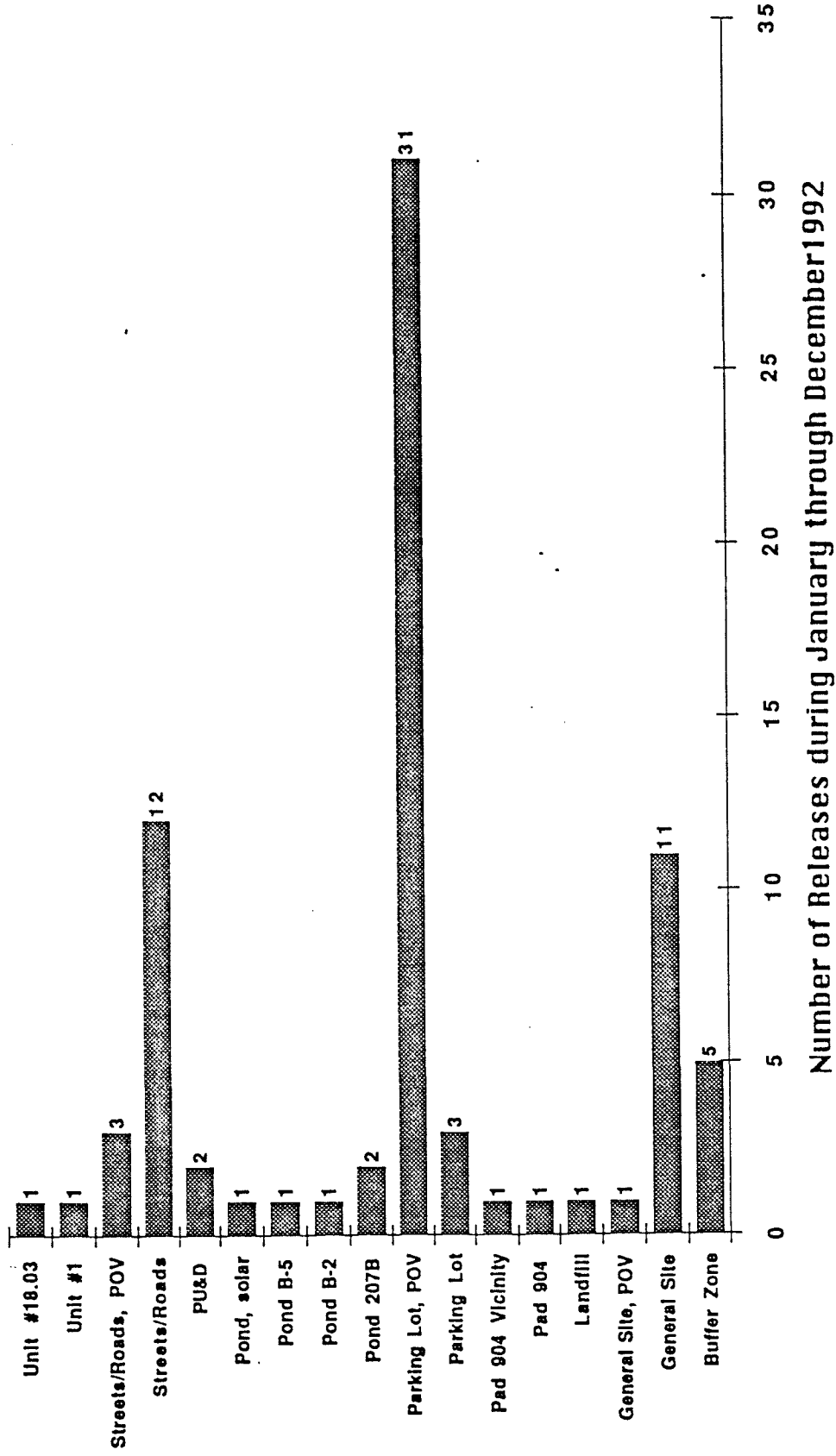


Inside and Outside Releases by Location

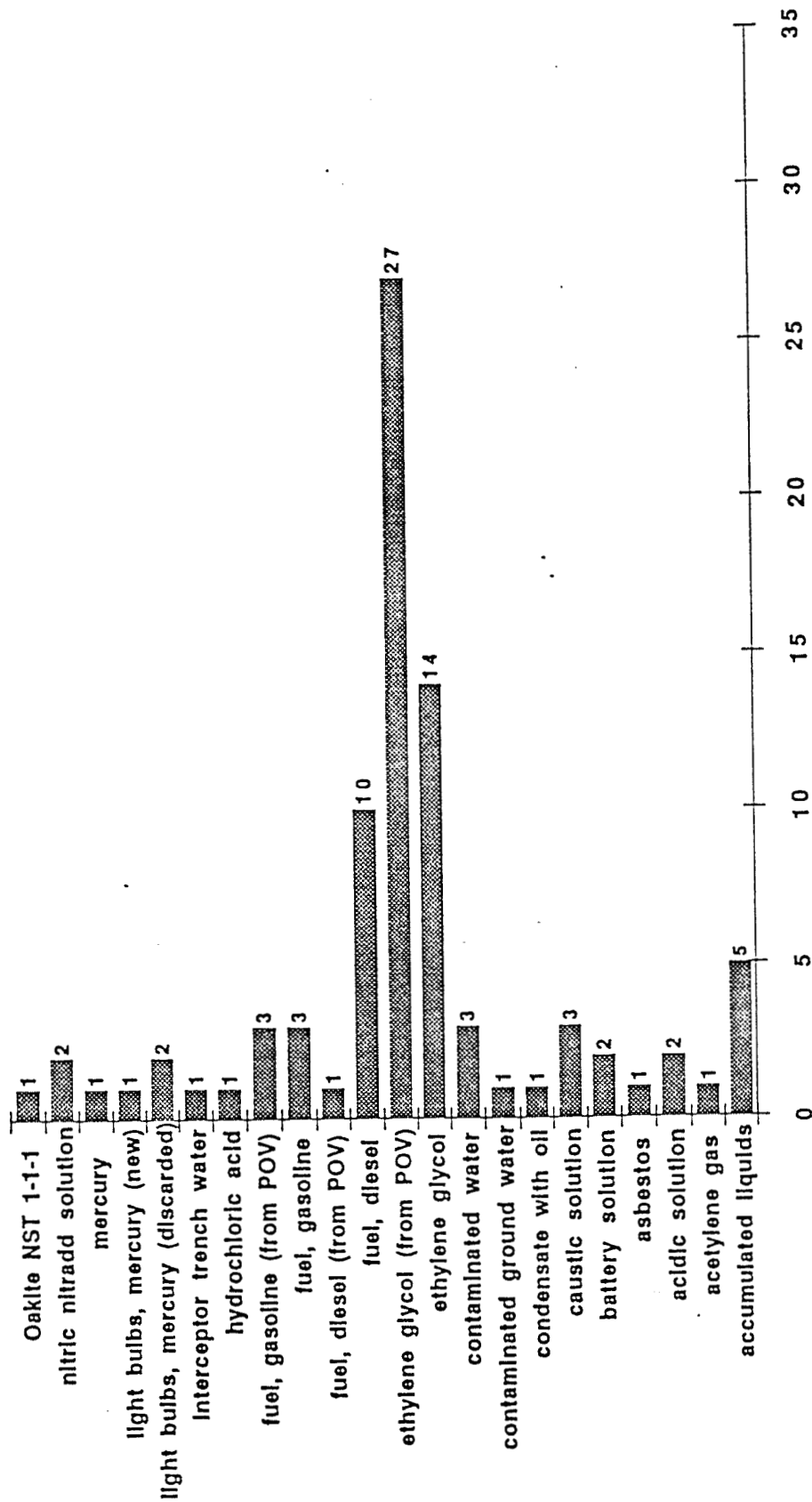


Number of Releases during January through December 1992

Inside and Outside Releases by Location

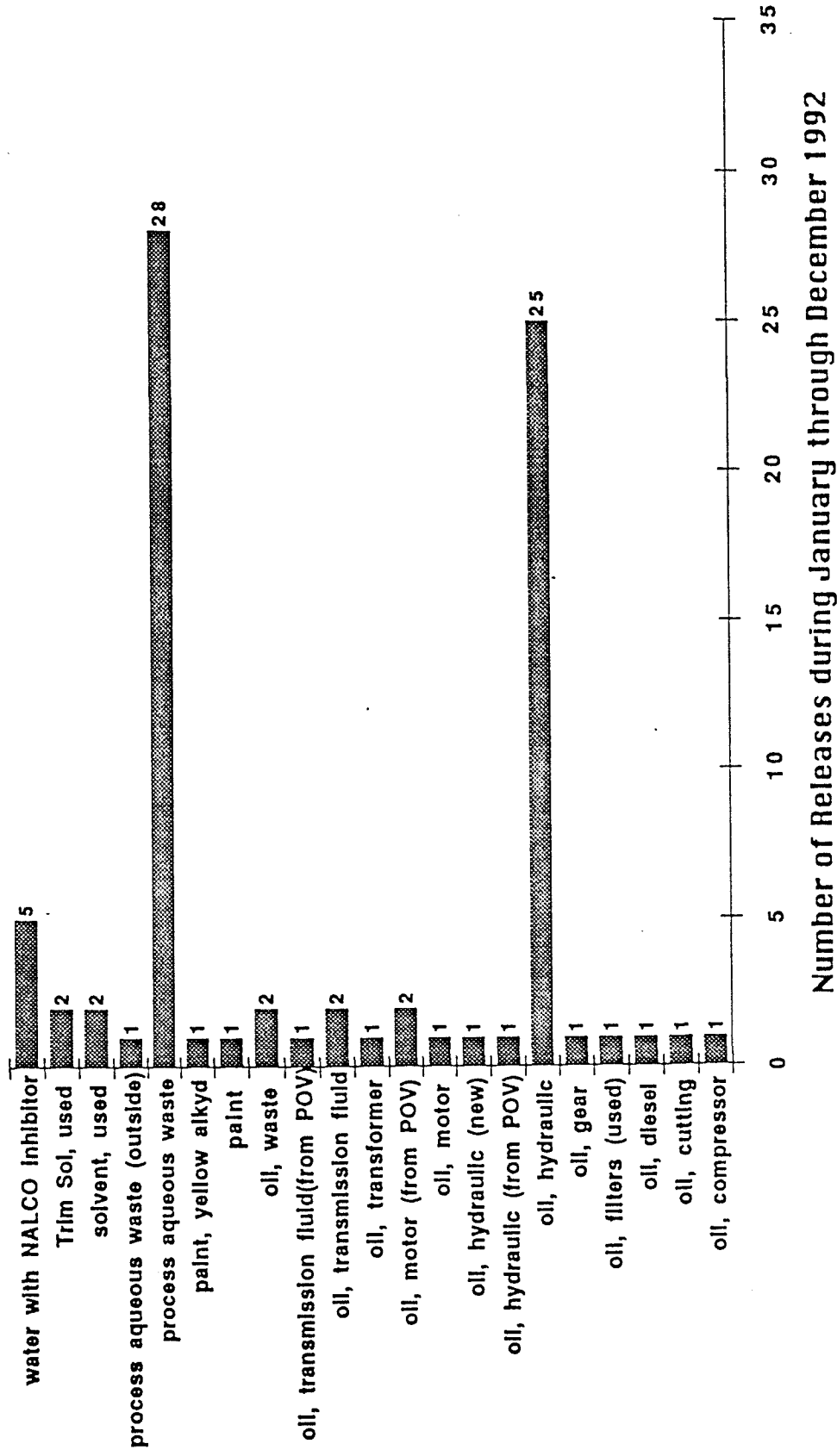


Inside and Outside Releases by Substance Type

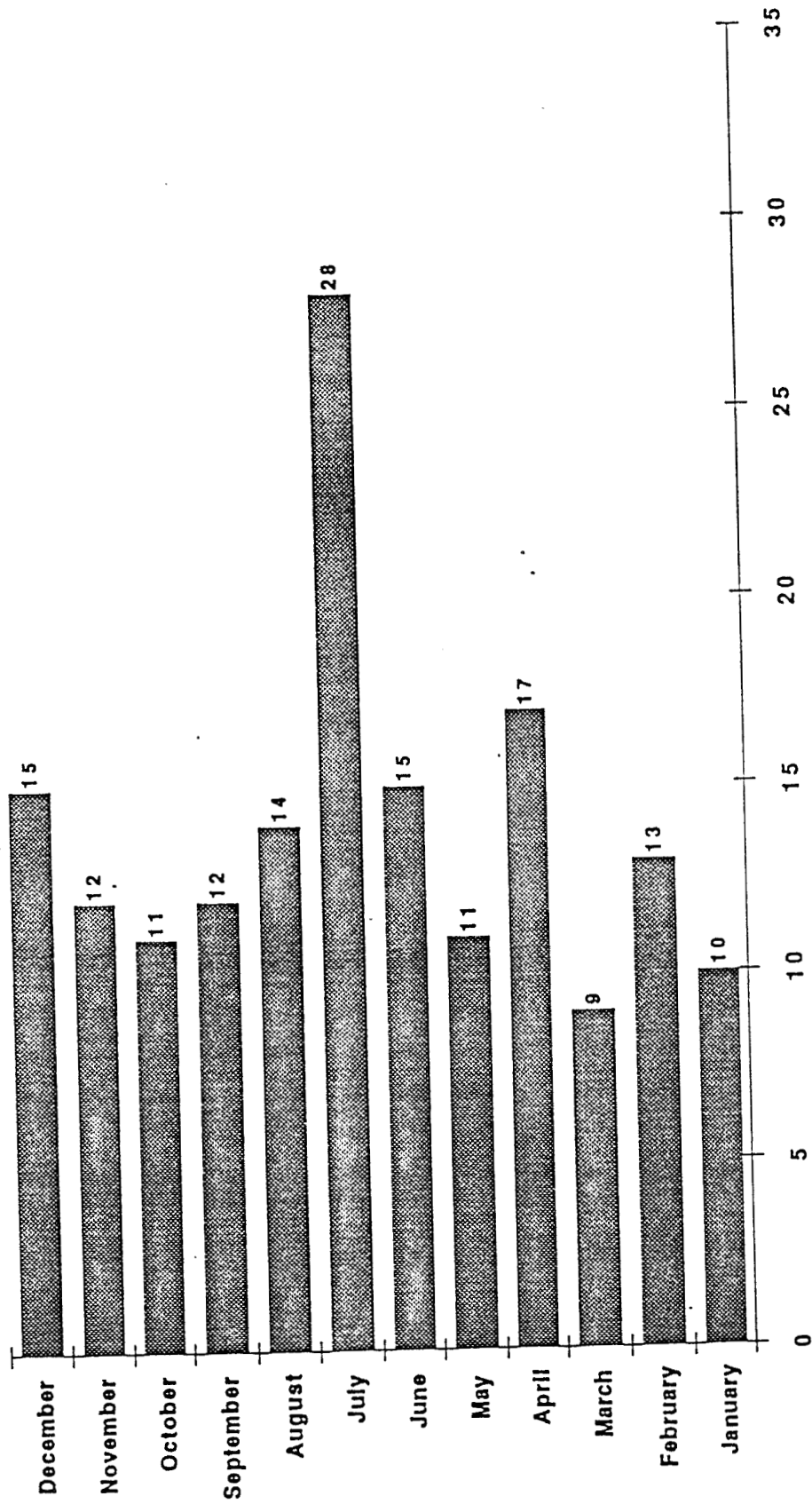


Number of Releases during January through December 1992

Inside and Outside Releases by Substance Type



Inside and Outside Releases by Month



Number of Releases during January through December 1992

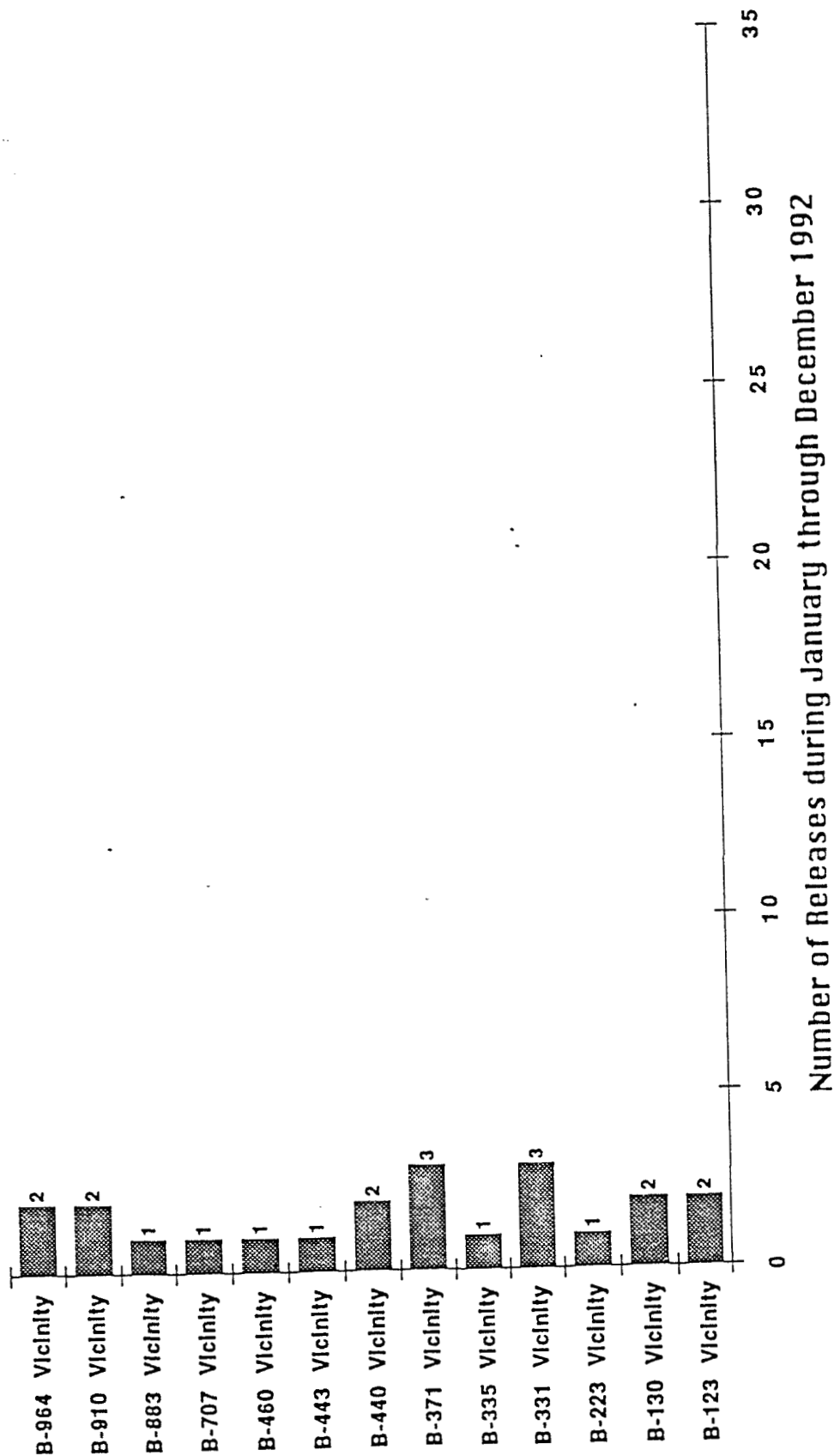
RELEASE GRAPHICS

RELEASES⁽¹⁾ OCCURRING OUTSIDE BUILDINGS OR CONTAINMENT ONLY

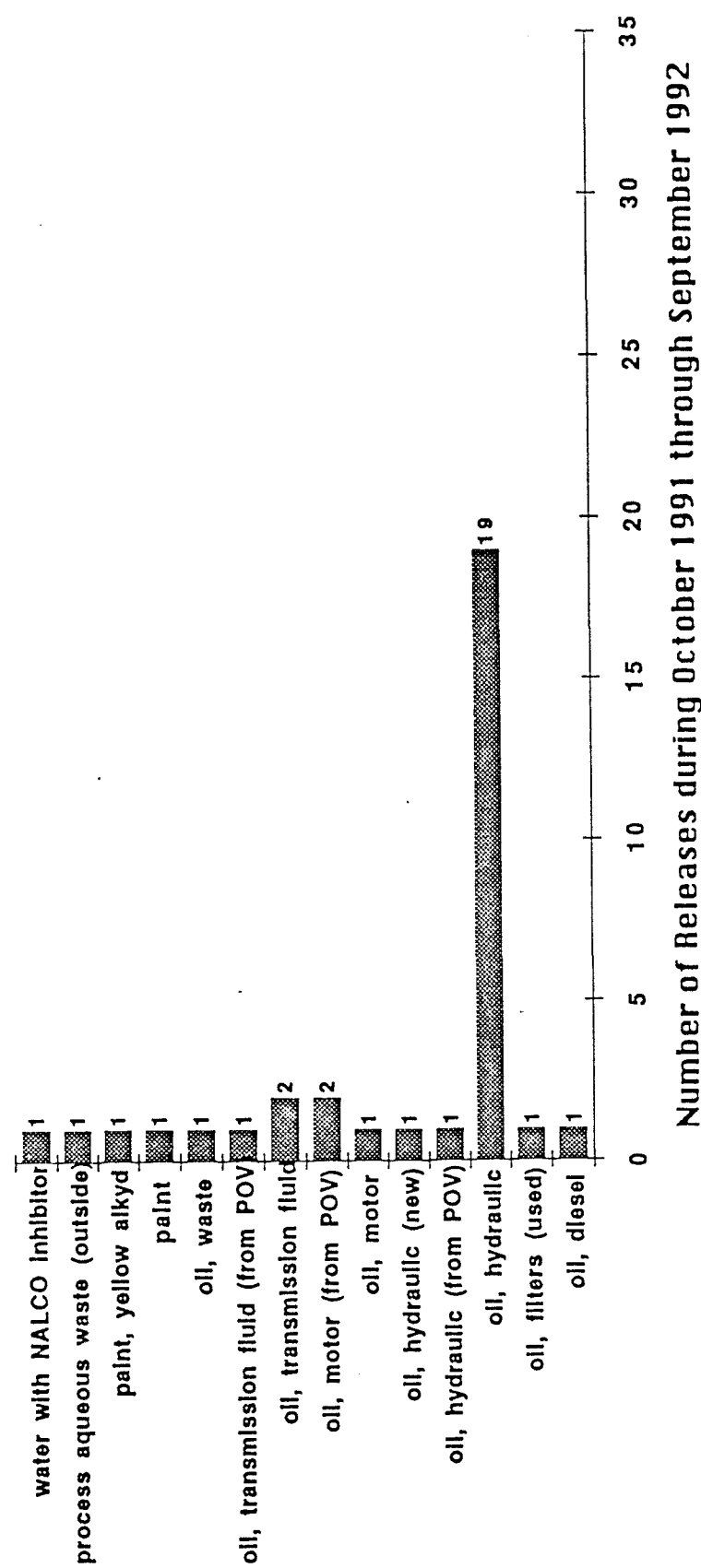
- (1) Includes all reported releases greater than or equal to one pound (or one pint of aqueous liquids) of hazardous substances (i.e., CERCLA hazardous substance, RCRA hazardous waste, SARA Title III extremely hazardous substance, DOT hazardous material, petroleum products, and nonhazardous substances (e.g., water) containing hazardous constituents.

NOTE: All reported mercury releases are included in data base including releases less than one pound.

Outside Only Releases by Location

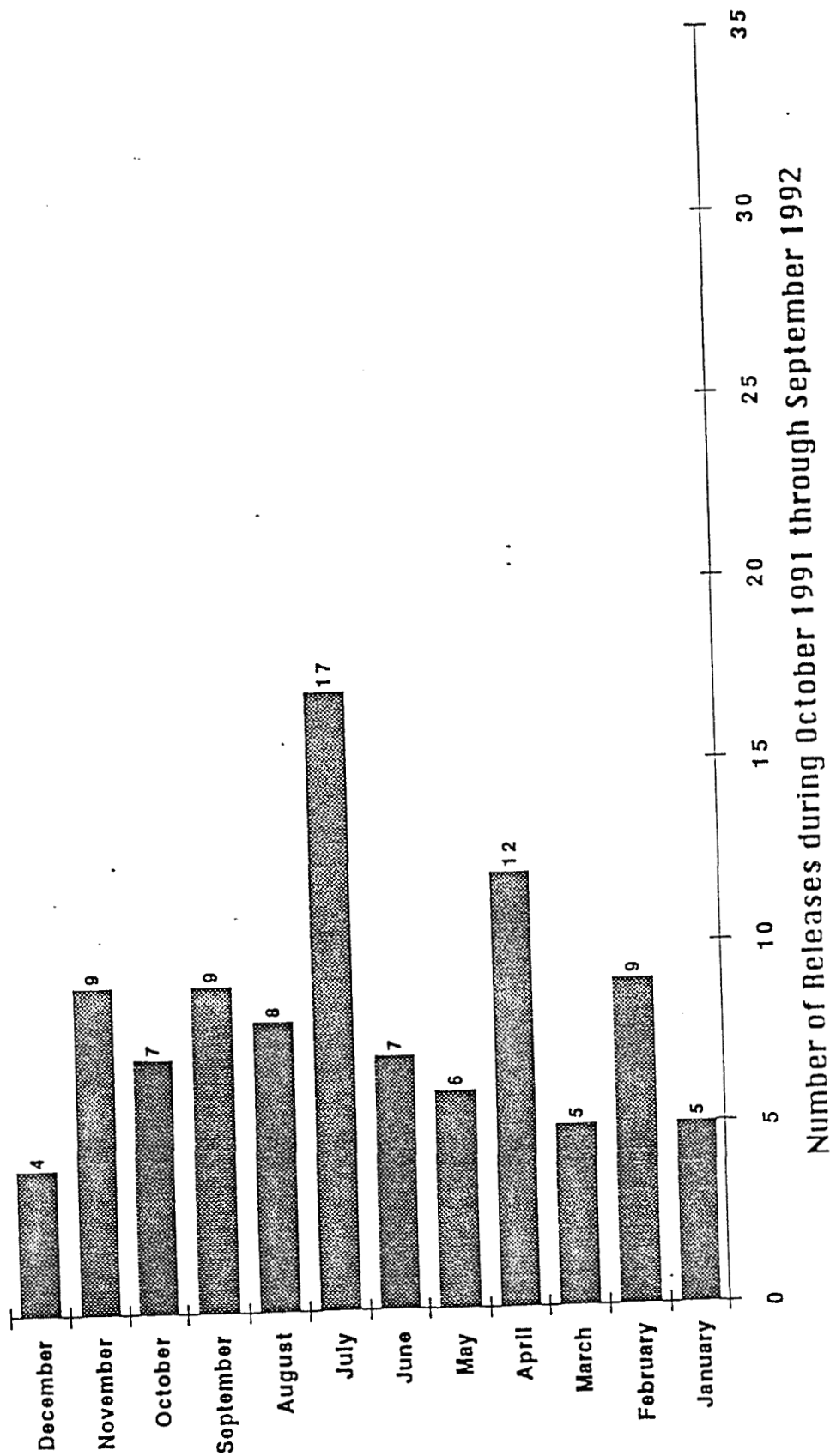


Outside Only Releases by Substance Type

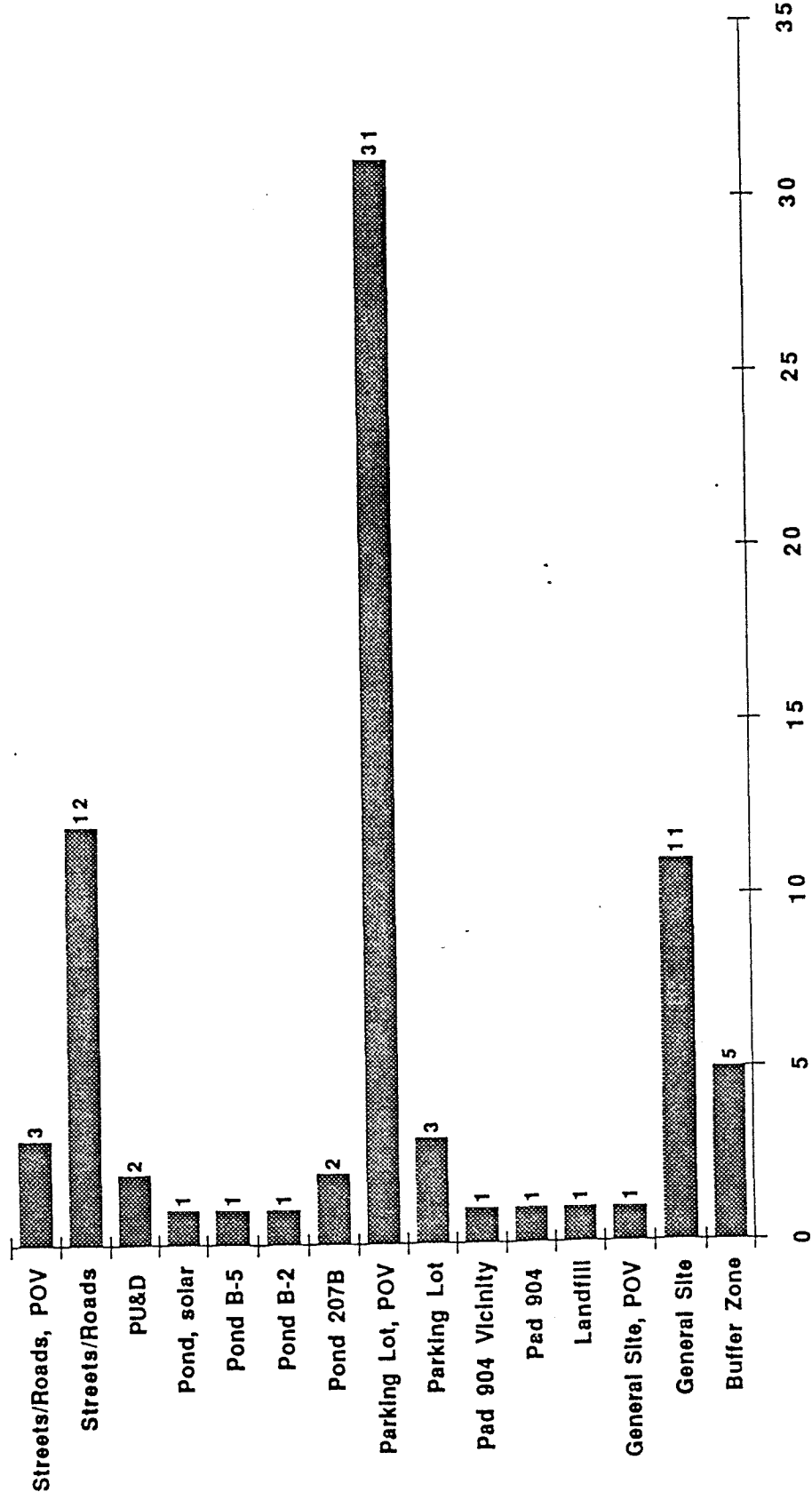


Number of Releases during October 1991 through September 1992

Outside Only Releases by Month

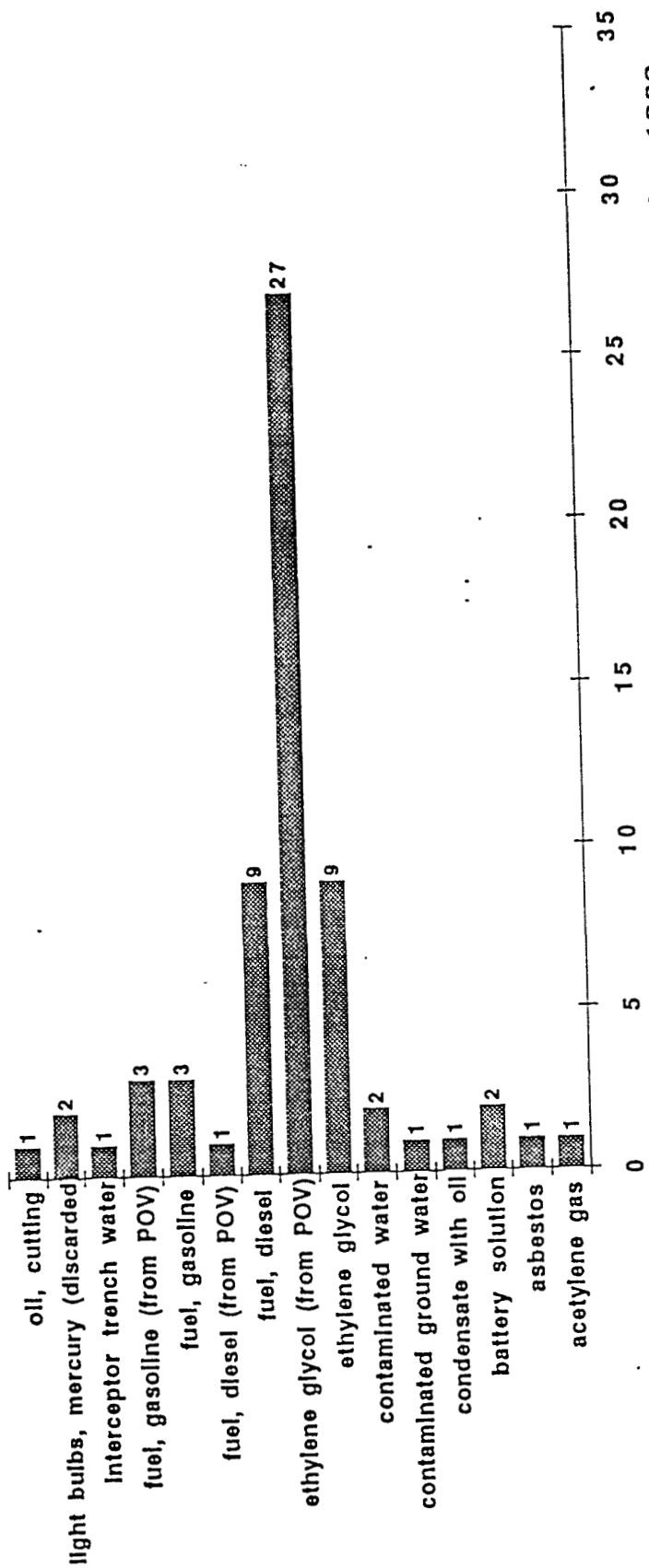


Outside Only Releases by Location



Number of Releases during January through December 1992

Outside Only Releases by Substance Type



Number of Releases during October 1991 through September 1992